

A STREET & SMITH PUBLICATION

ASTOUNDING

OCTOBER

20¢

CONTENTS
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1934

STORIES

SMIC RHYTHM

Harl Vincent



E.E. Smith, Ph.D. Nat Sch

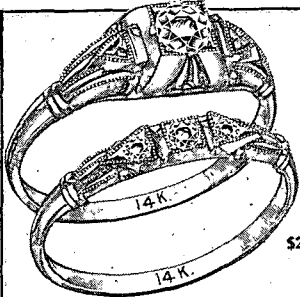
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2 Rings
for

\$29.75

\$2.88 a month

JC-1 . . . Perfectly matched square prong, "Cupid" ensemble for engagement and wedding. Exquisitely hand engraved 14K Solid White Gold, tulip design. Certified, fiery genuine, blue-white diamond in engagement ring—3 matched genuine diamonds in wedding ring. A \$42.50 value—now only \$29.75 for both rings. \$2.88 a month.

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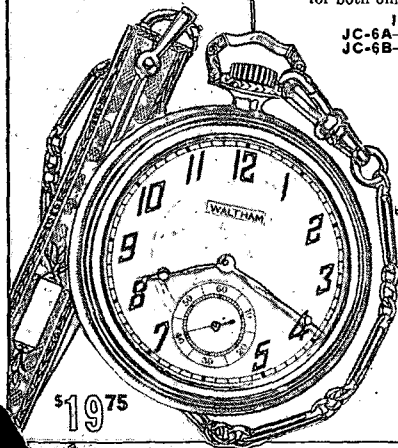
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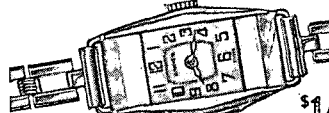


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2 DIAMOND BAGUETTE \$24.50
now only
Only \$2.35 a month

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Take 10 days free trial! If you can duplicate our values anywhere, return your purchase and we'll return your dollar. If satisfied, pay only the small amount stated each month.

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Written Guarantee Gold Bond with every diamond and watch! Your satisfaction is absolutely assured by our 39 year record of fair and square dealing.



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for MEN!

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JC-6 . . . Order this combination together for maximum savings! Famous 15J Waltham wrist watch of latest design, white lifetime case. Factory guaranteed, accurate and dependable. Sturdy link bracelet. The 10K Solid (White or Yellow) Gold genuine black onyx initial ring is set with a genuine diamond with two raised white gold initials. Price for both only \$36.75—only \$3.58 a month.

IF PURCHASED SEPARATELY

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JC-6B—Signet ring only \$16.50—\$1.55 a mo.



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Hundreds of special values in certified, first quality genuine blue-white diamonds, standard watches, fine jewelry, silverware and cameras. Beautiful styles fully described. Send for your copy to-day.



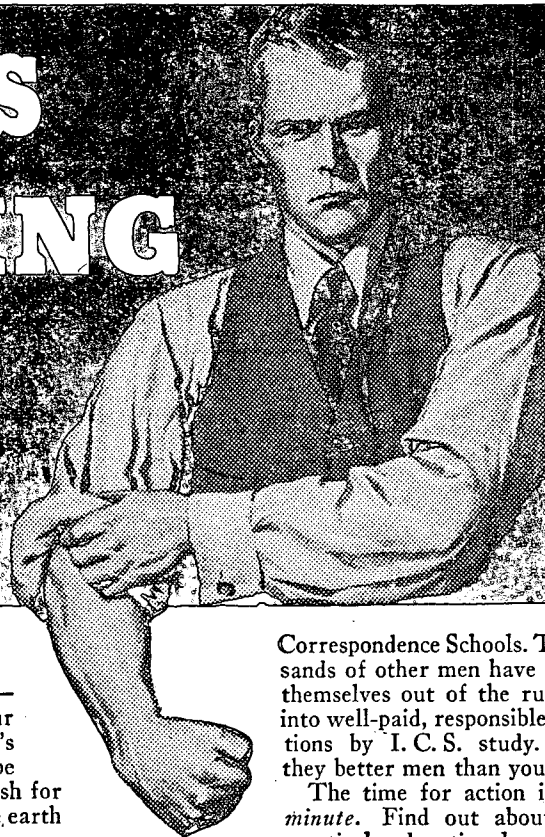
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JC-9 . . . The famous Waltham. One of America's greatest watches specially offered at a spectacularly low price. Handsomely engraved, thin model, 12 size, white, lifetime case; factory guaranteed 15J WALTHAM movement; complete with engraved knife and chain to match. Now \$19.75—only \$1.88 a mo.



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| ☐ Architectural Draftsman | ☐ Telephone Work | ☐ Heating | ☐ Ventilation | ☐ Highway Engineering | ☐ Chemistry |
| ☐ Building Estimating | ☐ Mechanical Engineer | ☐ Sheet Metal Worker | ☐ Steam Engineer | ☐ Coal Mining Engineer | ☐ Pharmacy |
| ☐ Wood Millworking | ☐ Mechanical Draftsman | ☐ Steam Electric Engineer | ☐ Civil Engineer | ☐ Navigation | ☐ Air Conditioning |
| ☐ Contractor and Builder | ☐ Machinist | ☐ Surveying and Mapping | ☐ Refrigeration | ☐ Boilermaker | ☐ Textile Overseer or Supt. |
| ☐ Structural Draftsman | ☐ Patternmaker | ☐ R. R. Locomotives | ☐ R. R. Section Foreman | ☐ Cotton Manufacturing | ☐ Woolen Manufacturing |
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If you reside in Canada, send this coupon to the International Correspondence Schools Canadian, Limited, Montreal, Canada

AST-1

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On Sale Third Wednesday of Each Month

VOLUME XIV
NUMBER 2

ASTOUNDING STORIES

OCTOBER
1934

A STREET & SMITH PUBLICATION

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Story Illustrations by **Elliot Dold**

Single Copy, 20 Cents



Yearly Subscription, \$2.00

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The Story of 2 MEN who NEEDED CASH



THIS MAN DOUBTED:

He said: "Yes, I am broke. I am very terribly hard up. I haven't a cent of extra money for anything. I don't know where to get some. I don't have a bit of faith in anything. I am a failure and my luck is terrible."

I Start You in a GROCERY ROUTE BUSINESS

I start you in business yourself and back you to the limit with my own plans. I manufacture nearly 300 nationally known products, such as Tea, Spices, Extracts, Baking Powder, etc. I sell the things people buy daily to live. I simply take care of a large route, calling on customers once a week and keeping them

SAVE A BIG PERMANENT WEEKLY INCOME

If you are tired of slavery for small pay, here's your chance to break away. You can even start in your spare time—see the business grow—have cash in your pocket—be independent. Enjoy the thrill of a successful business as a man or woman. Have a profitable, steady year

DO you need money to pay the rent—to meet nagging bills—or to clothe and feed the family? Are you hard up for ready cash and obliged to deny yourself many comforts or even necessities? Are you working for such small wages that you can't make ends meet? Then you will be interested in the experience of these two men.



THIS MAN ACTED:

He said: "Yes, I need money. I am tired of penny pinching. Your generous offer sounds good to me. It costs nothing to investigate—I have everything to gain. I am going to send in my name and find out just what you have to offer me."

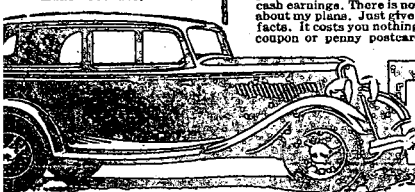
A FEW WEEKS LATER



Now look at these two men. One is a success and the other is a failure. One had the courage to try; the other had no faith—he was a doubter—he is still in hard luck. The man in the car is a success because he was willing to listen to reason. He was not afraid to send in his name and get the facts. When he saw my public announcement offering an 8-Cylinder Ford Tudor Sedan to producers in addition to their regular cash earnings, he believed in my sincerity. Why don't you, too, investigate?

Started Penniless—6½ Months Later Was Worth \$1200

Only six and a half months ago I started with your company without a penny to my name, and today (I just finished my lance) I am worth a little more than \$1200.00. I can hardly believe it myself—such success in so short a time! It is the truth. Many of you have made from \$15.00 to \$100.00 clear profit. Your happy hustler, Hans Coordes, Nebr.



BRAND NEW FORD SEDAN Given Producers as Extra Bonus.

LOOK AT THESE UNUSUAL EARNINGS

I get glowing letters from route owners daily. One from Howard B. Ziegler, Pa., read: "Made \$103.32 in a single week." And one from Albert Becker, Mich.: "Made \$100.00 in a week and \$40.00 in a single day." Mrs. Jewel Hackett, Ohio, sent me her name. She made \$33.00 in seven hours. I have many more letters of exceptional earnings like these. Better send me your name and get the amazing details of my offer.

Don't Send Money—Send Name

I don't need your money—I need your help. You don't require any experience or training. I furnish everything—including a brand-new Ford Tudor Sedan to producers as an extra bonus over and above regular cash earnings. There is nothing difficult or complicated about my plans. Just give me a chance to explain the facts. It costs you nothing to find out. Send name on coupon or penny postcard. DO IT NOW!

TEAR OUT-MAIL NOW

ALBERT MILLS, President
5178 Monmouth Ave.,
Cincinnati, Ohio



Rush me free facts. Tell me how I can start earning up to \$60.00 a week at once with a permanent Grocery Route business of my own. This will not obligate me.

Name

Address

(Please Print or Write Plainly)

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Kidneys Cause Much Trouble Says Doctor

Successful Prescription Helps Remove Acids—Works in 15 Minutes.

Dr. T. J. Rastelli, famous English scientist, Doctor of Medicine and Surgeon, says: "You can't feel well if your Kidneys do not function right, because your Kidneys affect your entire body."

Your blood circulates 4 times a minute through 9 million tiny, delicate tubes in your Kidneys which are endangered by drastic, irritating drugs, modern



Dr. W. R. George

foods and drinks, worry, and exposure. Beware of Kidney dysfunction if you suffer from Night Rising, Leg Pains, Nervousness, Dizziness, Circles Under Eyes, Acidity, or Loss of Pep.

Dr. Walter R. George, for many years Health Director of Indianapolis, says: "Insufficient Kidney excretions are the cause of much needless suffering with Aching Back, Frequent Night Rising, Itching, Smarting, Burning, Painful Joints, Rheumatic Pains, Headaches, and a generally run-down body. I am of the opinion that the prescription, Cystex corrects such functional conditions. It aids in flushing poisons from the urinary tract, and in freeing the blood of retained toxins. Cystex deserves the indorsement of all doctors." If you suffer from Kidney and Bladder dysfunction, delay endangers your vitality, and you should not lose a single minute in starting to

take the doctor's special prescription called Cystex (pronounced Siss-tex) which helps Kidney functions in a few hours. It starts work in 15 minutes. Gently tones, soothes, and cleans raw, sore membranes. Brings new energy and vitality in 48 hours. It is helping millions of sufferers and is guaranteed to fix you up and make you feel like new in 8 days, or money back on return of empty package. Get guaranteed Cystex from your druggist today.

Men Past 40! MAKE THIS AMAZING TEST

A STARTLING new book now tells vital facts that may explain many mysterious and often frightening symptoms, which appear in many men past 40. In innumerable cases, doctors say, the vital-prostate gland (found only in men) starts failing in the years between 40 and 50. This gland is not even known to many laymen—but its symptoms are easily recognized. When "hypertrophy" of this gland sets in, the victim's first warning is usually a need to get up several times a night. Often he complains of other "bladder" symptoms, sometimes of aching back and legs, pains in the feet, or of unexplained "blues" and lack of ambition and strength. If neglected, this condition may reach the stage where dangerous gland surgery is necessary.

This book, called "Why Many Men Are Old At Forty," not only explains about this common gland condition but tells how thousands of men have banished these symptoms through a simple, drugless treatment, used a few minutes each day right at home. No medicines—diets—massage—violet rays. This THERMALAID Method uses the same principle so widely advocated by leading doctors. Tested by over 100,000 men.

Write now for your copy of this book, and also get details of generous Test Offer. Find out why thousands say: "I felt ten years younger in a week!" No obligation—but write quick if you want to be sure of getting your copy.

Address—W. J. Kirk, President, The Electro Thermal Co., 7681 Morris Ave., Steubenville, Ohio.

Western Address: Dept. 76-M, 500 Wm. Fox Bldg., Los Angeles, Calif.

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C. E. Brooks, Inventor

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M. C. BROOKS, 155 State St., Marshall, Mich.

PILES DON'T BE CURED Until You Try This Wonderful Treatment

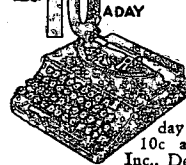
for pile suffering. If you have piles in form write for a FREE sample of Pile Tablets and you will bless the day that read this. Write today. E. R. Page 2315-H Page Bldg., Marshall, Mich.

SKIN TROUBLE? PSORIASIS—ECZEMA

and other obstinate skin eruptions. Is it necessary to suffer from these unsightly skin irritations? **PSORACINE**, a wonderful new discovery now relieving many stubborn cases where other treatments failed. Try it no matter how long afflicted. Write for sworn proof and free information.

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GOOD YEAR
U.S. FISK and OTHERS

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get quality. Every standard brand tire reconstructed by our superior, modern method is positively guaranteed to give full 12 months' service under average road conditions. This guarantee is backed by the entire financial resources of an old reliable company. Order Now at Today's Lowest Prices.

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30x4-40-19	2.19 00.83	32x4	2.59 1.25
30x4-40-18	2.19 00.83	33x4	2.59 1.25
30x4-40-17	2.19 00.83	34x4	2.59 1.25
30x4-40-16	2.19 00.83	35x4	2.59 1.25
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30x4-40-12	2.19 00.83	39x4	2.59 1.25
30x4-40-11	2.19 00.83	40x4	2.59 1.25
30x4-40-10	2.19 00.83	41x4	2.59 1.25
30x4-40-9	2.19 00.83	42x4	2.59 1.25
30x4-40-8	2.19 00.83	43x4	2.59 1.25
30x4-40-7	2.19 00.83	44x4	2.59 1.25
30x4-40-6	2.19 00.83	45x4	2.59 1.25
30x4-40-5	2.19 00.83	46x4	2.59 1.25
30x4-40-4	2.19 00.83	47x4	2.59 1.25
30x4-40-3	2.19 00.83	48x4	2.59 1.25
30x4-40-2	2.19 00.83	49x4	2.59 1.25
30x4-40-1	2.19 00.83	50x4	2.59 1.25

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30x6-40-16 3.45 1.25
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WE WANT DEALERS

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GOODWIN TIRE & RUBBER CO.
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20 MILLION Women Buyers are "AT HOME" to YOU

You can easily make up to \$12 daily with our new, exclusive Christmas Box assortment. 21 Beautiful Folders featuring Pearlite in a handsome gift box. Sells for \$1.00—Costs you 60c—ALSO other Christmas items to increase your sales. Write at once for full particulars to **WALTHAM ART PUBLISHERS**, Dept. 67, 7 Water Street, Boston, Mass.

WANTED MEN

Manage Potato Chip Stores

We furnish everything—help finance and locate you. No experience needed. Tremendous profits. Sensational introductory starting plan. No house-to-house canvassing. Wonderful opportunity. Rush name for free book of Profit Facts—today!

LONG-EAKINS COMPANY
940-S High Street Springfield, Ohio

Employment for 500 Men at Once!

A REVOLUTIONARY Chemical Sponge has just been invented that cleans cars like magic. Banishes auto-washing drudgery. Also cleans linoleum, woodwork, windows without work! Auto owners and housewives wild about it!

The manufacturer wants 500 men and women at once to help him introduce this strange chemical sponge. He has a special No-Risk Trial Offer for the first person in each locality who writes him. Send in your name today—also ask for full particulars on how you can get the Agency and without experience or risk have a BIG STEADY INCOME. Address: **KRISTEE MFG. CO., 719 BAR ST., AKRON, OHIO**

WANTED for murder!

\$1,000 Reward!

In a dirty, forlorn shack by the river's edge they found the mutilated body of Genevieve Martin. Her pretty face was swollen and distorted. Marks on the slender throat showed that she had been brutally choked to death. Who had committed this ghastly crime?

Crimes like this are being solved every day by Finger Print Experts. We read in the papers of their exploits, hear of the mysteries they solve, the rewards they win. Finger Print Experts are the heroes of the hour.

More Trained Men Needed

The demand for trained men by governments, states, cities, detective agencies, corporations, and private bureaus is becoming greater every day. Here is a real opportunity for YOU. Can you imagine a more fascinating line of work than this? Often life and death depend on finger print evidence—and big rewards go to the expert. Many experts earn regularly from \$3,000 and more per year.

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Don't wait. You may never see this announcement again! You assume no obligation. (Mail coupon NOW—while this offer lasts!)

Institute of Applied Science
Dept. 27-76 1920 Sunnyside Avenue, Chicago

INSTITUTE OF APPLIED SCIENCE,
Dept. 27-76 1920 Sunnyside Avenue, Chicago, Ill.

Gentlemen: Without any obligation whatever, send me your new, fully illustrated, FREE book on Finger Prints and the free copy of the Confidential Reports of Operator No. 38 made to His Chief.

Literature will not be sent to boys under 17 years of age.

Name _____

Address _____

Age _____

Please mention this magazine when answering advertisements

ASTHMA was Strangling her



Illustration

Attacks Stopped At Once

If asthma has kept you gasping and miserable, read this letter from Mrs. Will Case, Route No. 2, Hubbard, Nebraska.

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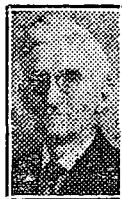
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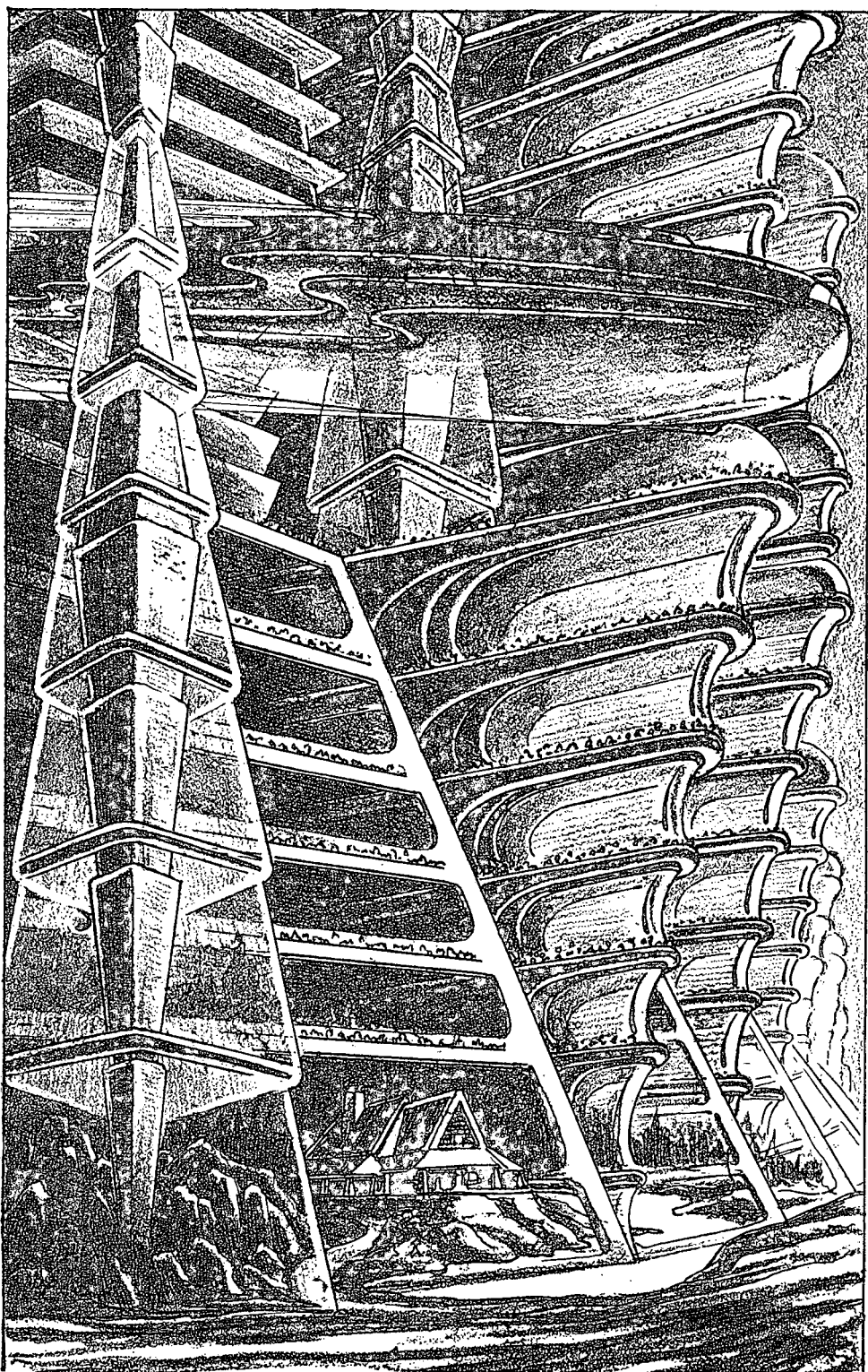
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change of cur-
vature, a bend-
ing inside-out
—and terres-
trial chaos
was left in its
wake!*

*He ran from that
appalling sight—the
gargantuan building
that reared a thou-
sand feet into the
air, the vast airship
floating about aim-
lessly inside it—for,
to his all-perceiving
eyes, everything was
transparent!*

LANSE threw his head back with a sudden snap and stood dazed for an instant. His hand, hovering above a mass of scrawled paper, shook. The vacant look of incomprehension faded from his watery eyes; they filled with fear. He let his breath out with a low trembling whistle.

Still shaking, he turned swiftly around to face Worthing, who sat amazed at the odd actions of his usually phlegmatic friend.

"Do you believe in God?" Lanse demanded brusquely.

Worthing gasped. "Why? What?"

Lanse muttered savagely: "Retribution—they'll call it retribution. And maybe they won't be far wrong." He shrugged and collapsed into a chair. He laughed shortly, ironically.

"Something happen?" Worthing asked.

"Not yet!"

Worthing relaxed visibly.

"I thought perhaps I was going crazy," Lanse went on. "Checked and rechecked. Same result every time. Not that there's so much to check up on," he pointed out to Worthing, shaking his finger emphatically. A note of despair edged into his voice. "It'd be better if there was, I think. Then I'd have a margin of doubt. But like this I—"

Worthing kept silent, letting his friend talk. In his opinion, Lanse was headed for a breakdown, tortured as he was by financial insecurity and lack of recognition as well as self-imposed overwork. The astronomical physicist was young—not more than thirty—yet already his thin hair was graying, the lines on his drawn face etching deeper almost visibly.

If Lanse would only come up to his—Worthing's—summer home in the mountains for a month or so, he'd come back twenty pounds to the good and feeling a thousand times keener.

Hardly! Lanse was too independent; wanted to make his own way, he said.

"Look at this photograph," Lanse ordered, shoving a large square of brilliantly glazed paper toward Worthing.

A large circle of unvarying white brightness extended nearly to the edges of the photograph; around the globe a black background lightened evenly until it approached what was evidently a reflected whiteness. Worthing thought he recognized in it the Sun, but, on closer scrutiny, the huge spots of swirling darkness seemed to suggest Jupiter.

"That's old Sol," Lanse announced tersely. "And here's another smiling snap, taken during the winter."

Three lines had been drawn on the picture; one through the center, two at each outside extremity. It took Worthing a little time to realize the importance of these lines. Something appeared wrong with the photograph when he first looked at it. Of course! He glanced very closely at it. The line at the left had been drawn on a tangent parallel with the center line, but the right one cut through the circle a quarter of an inch from the perimeter.

Then he noticed two double-headed arrows, marking a radius from each side. The distance quoted on the two arrows from outside tangents to diameter were exactly equal, as his eye agreed. Then if that was so—the Sun was lopsided.

"Exactly!" Lanse nodded, when he saw the astounded look in his friend's eyes. "Something is pulling the Sun out of shape. A gigantic force is being exerted on it."

"Do you know what it is?" Worthing whispered.

"I have an excellent idea. Listen, if this sounds idiotic and fantastic, don't blame me. There's no other explanation."

"A force that could distort the Sun that much must be either tremendously

large or else dangerously close, or both. But where is it? I have photographs—Mount Wilson photographs, taken within the last three weeks—of the entire heavens, even the parts that couldn't possibly account for the force that's distorting the Sun. I couldn't take any chances of ignoring anything. But there's nothing——

"These pictures are reversed, you know. I'm just telling you that so you can realize this is a photograph of the Sun's profile. This one—the distortion. Here's the way that fact comes in: If you face Vega, which is approximately the center of our universe, every astronomical object in the universe is rotating from right to left, or east to west, and traveling around Vega in the same direction.

"Therefore, ordinarily a force that could pull the Sun out of shape like that would tear the planets away first, since it must approach from the right and the planets at that season when this picture was taken were mostly in that direction. So, as any well-behaved object would do, this colossal force should travel from the right as it approached the Sun, thus tearing every one of the planets out of its orbit, before it could reach the Sun.

"But it doesn't. This force is traveling in the opposite direction.

"Do you know what that means? I don't either, but I can guess. Take into consideration the fact that not a single star is blotted out in any field around or behind the Sun. Also, the sun-spot period was over five years ago and isn't due for another six years. According to precedent, there should be a very few tiny sun spots at this time. But take a look at the picture. The spots are vast, and every day they're widening and absorbing each other, so that they almost look like the red spot of Jupiter.

"And come over here and listen to this——"

WORTHING followed him into the living room, standing to one side nervously as Lanse tuned in the radio. He whirled the knob aimlessly, shifting from one station to another. In the points between the stations a steady hum sounded from the powerful radio, rising to a sudden shriek and scream of a million tortured demons that drowned out the most persistent programs as he set the dial on a broadcasting station.

"You've never heard static like that before," Lanse pointed out, straightening up and shutting off the power. "And that isn't the only thing.

"At around five in the afternoon—any afternoon—people as far south as Maryland can see the aurora twisting brightly in the sky, regardless of the Sun. Even during the highest peak of sun spots, when there's a violent electric storm around the north pole, it's an unusual occurrence to see the aurora any farther south than upper New York State."

Worthing interrupted anxiously: "I know all that. The papers are full of it every day."

"Certainly! They can't afford to ignore such important phenomena. But do they carry the thing on to its natural conclusion? Of course not! They can't.

"Now the distortion of the Sun," he went on rapidly, "is the first clue. Remember that's as though a titanic tide was being raised on the wrong side of the Sun, in the opposite direction from which the force should be exerted. Then remember that the body that's pulling the face of the Sun out of shape is completely invisible—not a dark star, for even a dark star would be visible at that distance, because of the star fields that would be blotted out. In this case, though, despite the fact that if we wait a few hours we can see the fields just hidden by the Sun, not a single star is invisible.

"All that is amazing enough. But

more than that—this body is traveling in exactly the opposite direction from that of every other astronomical body in the universe.

"So I put all this together and shoved it aside for a while, until I could plot the erratic orbits of Mercury and Venus and the height of the tide raised on the Sun. In this way I discovered that the object is approximately the size of the Sun, at an unknown distance—less than a billion miles away, anyhow—and traveling at an unknown speed."

"You couldn't find the speed?" Worthing echoed.

"We're not Merlins," Lanse snapped testily. "The star is invisible, so I couldn't gauge the variations in the spectrum's red line. And the orbital errors and the solar tide remain constant. How else can I find the speed? Let me finish—"

"I added two and two and got an astronomical twenty two. But then," he brushed his hand across his tired eyes, "there's so much that's contrary to what we've been accustomed to call fact.

"The best I could figure was that this invisible star that's traveling in the wrong direction is—a fourth-dimensional star." He finished slowly and stared at Worthing to see how he would take it.

Worthing permitted himself a half smile of disbelief. "You're joking, of course."

Lanse raised his aching, tired shoulders and dropped them hopelessly. "Have it your way," he mumbled.

"But, man, you're not serious!" Worthing cried.

"Isn't this a funny joke?" Lanse demanded angrily. "Do you think I'm going to spend six months or more, go to the expense of having dozens of Mount Wilson exposures made for me, and work like a dog on bewildering mathematics, just for the sake of seeing

you smile? Don't be a fool! I was never more serious in my life."

Worthing sat silent for a while, stunned. The tiny workroom seemed oppressive. He wanted to get out into the open air—to stare up at the Sun and assure himself that the universe was all right.

"What will happen?" he asked softly.

Lanse gazed bitterly out of the window. A haze of dirty yellow light struggled between the narrow space of the two tenement houses. His glance rested on dusty red brick.

"Who knows?" He turned to Worthing, his tired watery eyes behind their thick glasses were enormous. "There's a good chance for our being totally destroyed, and not much for our survival. What happens when two stars collide?" He spread his hands. "Perhaps a few atoms are left to mark off the space, or a sun several times as large as the two individual stars. In either case—death!"

Neither moved for a while, thinking of the immediate future. Suddenly Lanse raised his head and laughed—a weird cackle of sheer despair.

"Nothing matters any more," he said hollowly. "Money—fame— Let's take that trip up to your summer home that you've been annoying me about for so long. We'll be well browned and in swell condition when old man death cuts the ground from under us."

II.

LANSE felt the warm rays of the Sun on his body. They always woke him early in the morning. Usually he kept his eyes closed, enjoying the luxurious warmth to which he was unaccustomed in the city. This morning he kept them closed for a different reason.

He felt as if his body had been turned inside out and his brain were grasped in a hot, sweating hand.

During the night, he vaguely recalled, he had been half awakened by some curious, fear-fraught twisting of the entire universe, it seemed. Everything had turned upside down and inside out. He had found himself shivering on the cold floor. Dizzy, weak, he clambered back into bed and fell into a tortured sleep.

Now he opened his eyes, afraid of what he might see.

He screamed hoarsely and hopped off the bed. His eyes burned in their sockets, transmitting to his brain pictures that he knew could never be. Though his mind remained cool, telling the rest of him that it was only a touch of sunstroke, he rushed madly, clothed in his sweat-soaked pajamas, through the house.

"Harry!" he shrieked. "Harry! I've gone insane!"

When he dashed, stumbling, into the bedroom, Worthing was sitting on the edge of his bed, staring around him fearfully.

Lanse rushed up to him seizing his shoulders. "I've gone mad!" he shouted harshly. "I can see right through you. I can see right through the walls of the house!"

He could see every vein, every artery, every muscle and organ in Worthing's body. When he looked around, he could see empty rooms, Worthing's wife and mother sitting up in bed dazedly, the servants downstairs, on the ground floor, preparing breakfast though they trembled and shook with fear. He could see outside the house, and what he saw there filled him with despair for his sanity.

Worthing sighed, apparently with relief. "I thought I was the only one," he said. "But you can see through everything, too, and so can I. So it's not so bad."

"You can, too?" Lanse exploded. "Good! Then it's a normal condition—temporarily, at least."

He immediately let go of Worthing's shoulder and rushed down the stairs and out into the wide grounds. Astounded, he stopped. Nothing here to convince him of his sanity. Worse—what he saw made him more sure he was mad.

In the mornings he was accustomed to come out on the great stretch of green lawn after breakfast to enjoy the mild warmth. The house was on top of a low hill, with tall woods starting a hundred yards from the base of the little plateau. A drive climbed the slow incline, leading through the bright lawn to the front of the house and around to the garages in the back.

Now he could see the small lake in the middle of the woods, though the trees surrounded it in a thick cluster.

Conical wigwams were gathered around the hill, with trees growing up through them. Indians—he was amazed that he could see so distinctly without his glasses—stood numbly in small groups around their camp.

He was startled by a series of crashes; when he searched for their cause, he discovered that the wind caused trees, supported by other trees, to fall to the ground. There were millions of trees, one growing within and around the other, uprooting some, a number hanging suspended on the branches of usurpers.

The Sun was not darkened, and yet something stood between the house and its rays.

Surrounding it and rearing a thousand feet up into the air, and extending a quarter of a mile in each direction of its base, a gargantuan building inclosed house and trees as completely as if the entire location and all it contained were playthings in a nursery.

He looked up. On the floors, diminishing far into the heavens, he could see thousands of people staring down at him and the crazy surroundings.

Through the walls he saw a vast air-

ship floating aimlessly about, evidently as much surprised as any one on the ground. It hovered, seeking a familiar secureness.

Everything was transparent to his all-perceiving eyes. He was even able to trace the colossal foundations of the building that towered a quarter of a mile above him.

The Indians came out of their stupor first. Wildly brandishing their spears and bows, they came tilting at him. He laughed, for the walls of the giant structure were between them. But they tore through them as easily as if steel and concrete were air.

Then he shrieked insanely and dashed for the doubtful security of the house.

III.

LAWRENCE GREY wanted to kick himself. The captain promised himself that luxury as soon as he could leave the cramped cabin of his large amphibian with safety. There was something funny about it, too, he had to admit to himself, for the day before he had been consumed with a patriotic fire, with the desire to do something heroic for his country.

It had seemed like a brave, patriotic gesture to leave for a nonstop flight to Africa on July 4th. Now he felt like a fool, risking his life senselessly, with no particularly good chance of his landing in one piece at Zanzibar, a distance of twenty-five thousand miles from San Francisco, his starting point; and it made no difference whether he succeeded or failed.

He glanced rapidly at his oil and gasoline gauges, altimeter and radio compass. Then he began to make a few quick additions in his mind that aroused a raging fear.

He was able to make a speed of three hundred and ten miles an hour cruising. The entire trip would take approxi-

mately four days, with six or seven hours' sleep any time he wanted it every twenty-four hours, since the robot pilot would keep the ship flying in a straight line at a certain height.

But he carried scarcely enough gas and oil to make the hop. If he ran into a slight breeze head-on, he'd probably have to land quite a stretch away from Zanzibar.

Nice boys financing the trip! He'd be damned if he'd take any wild chances like that. He could make Singapore easily, without taking any long chances. Have to pass over it, anyhow.

That's what he'd do, he determined.

So he edged two points to the north. Instead of bringing him over New Guinea and the Dutch East Indies, as his old route would have done, he now headed for Micronesia, the archipelago between Guam and New Guinea. He was making excellent time. At twenty-nine minutes after one that afternoon he had passed the one hundred and eightieth meridian, and instead of traveling into the late afternoon of July 5th, it was the 6th. Now it was twenty-three minutes to six, and he was flying over the Caroline Islands.

The decision he had made lightened his spirits considerably. He permitted himself to whistle a tuneless song. By this time the next day he'd be in Singapore, taking it easy. And he wanted to know what Singapore, the hell hole of the world, was like.

Something seemed queer to him as he took his eyes off the gauges and peered toward the water. It was darkening rapidly now, though the sky was clear. And despite the fact that the only wind blowing was the wash of the propeller, the sea was rough and choppy, raising tall, white-topped waves.

He flew as low as he dared, skimming at low speed a hundred feet from the threshing water. A thrown lever lowered the left window.

Suddenly he heard, above the roar of tumultuous waves, screams of thousands of people. He shook his head impatiently, thinking the long stretch at the controls had made him feverish.

No! A moment more found him over an area of tortured water that was black with bobbing heads. Incoherent, meaningless shrieks of horror reached his ears. A few faces turned whitely up to him. As he stared in numb awe, hundreds went down, leaving only bubbles to be thrown about by the violent whitecaps.

He shot the nose upward for eight hundred feet elevation and searched the surface desperately. A vast area was visible to him, and the entire circle of vision was covered with bobbing heads, millions of them.

With nerveless fingers he threw the switch of the radio. Then he called, shakily, for his San Francisco headquarters. A moment later a voice weakly told him to go ahead.

"Captain Grey speaking," he said. "I'm over the Caroline Islands, longitude 158° 23' west, latitude 8° 30' north. There're millions of people drowning all around me. What shall I do?"

Immediately a mess of foreign polyglot jammed his radio. He listened dazedly to the incomprehensible roar of combined tongues for a long while, then gazed unnerved at the helpless millions of doomed people he could not aid.

IV.

THE INDIANS were at the foot of the hill, swiftly mounting the gentle slope. Lanse turned and ran for the house, yelling for help, his heart pounding wildly. Yet he felt apart, detached from the reality of the nightmare event. It was too mad to be actual.

But he ran, nevertheless. As his short legs pumped ambitiously, he kept turning his head to look over his shoul-

der at the Indians, who were rapidly shortening the distance between them. He knew he reached the door and put out his hand to turn the knob.

He felt nothing where the door should have been. At first he thought he had not quite reached the door and pushed on a few paces farther, only to find himself within the house, the door shut tightly, and the Indians still charging. He had walked through the door, apparently. There was no other way he could have come into the house without opening the door. But he refused to believe it.

He stood still, breathing hard from exertion. The Indians still rushed on. Let them rush! He couldn't move another step.

Suddenly three men strode purposefully through the opposite wall of the house. It was faintly comical to him—the determination with which they marched through that wall. In their hands were things that looked com-
fortingly like revolvers.

Without glancing at him they walked to the door, threw it open and faced the Indians. In a single gesture, they raised their arms all at once and tiny puffs emitted from the guns. Lanse wanted to fall to the floor and cry, perhaps; he wanted to do something that would express the childishness of such play. Like strong Napoleons, the three had marched through the walls to fire pop-guns at Indians.

He was amazed to see the red men stop short, their facial muscles taut as whipcord, the tensed body muscles standing out in great bunches. Their eyes held the brimming horror of men who stared at the gaunt face of death.

And then they toppled over and rolled down the incline of the hill.

The three came back into the room. Lanse wanted to thank them. Their stern, set faces forbade it. He let them speak first.

"What are you doing here?" the eldest asked.

Lanse was stunned. "The same thing you are, probably," he replied.

"And what is that?" one wanted to know.

"Living here," he answered.

"Do you know what date this is?" the eldest asked again.

Lanse shrugged. "In my time it was June 5, 1942. The only thing that's certain is that it is summer; the year depends on—well, it depends on what year you were living in when all this happened."

"When what happened?" the eldest demanded.

"When time went off half cocked."

They looked at each other. "I do not understand," the youngest said. "If it relates to the fourth dimension, we cannot comprehend. We are only mechanics of the machines."

"You may speak to our experts on the subject," the eldest offered. "There are several in this building."

Just then Worthing entered the room. He looked from one to the other, astounded.

"Is this your friend?" one asked Lanse.

Lanse nodded.

"Then both of you may come. Is he also an Einsteinian expert?"

"No," Lanse answered. "He is merely a rich man."

They did not understand the term.

"He is a rich man," Lanse explained, "because other men work for him."

"You mean they do the work he should rightfully do?"

"Not necessarily. He pays them for it."

"Pays them?" one echoed. "With what?"

It was getting too involved. Lanse hardly cared to explain the economic theory of his time. He changed the subject by asking how their guns worked.

They looked down at the small machines as if for the first time.

"There are nicotine-filled capsules in them," the youngest said. "The capsules are contained in tiny steel needles that force the extremely soluble capsules into the blood stream. The nicotine is immediately carried to the heart and lungs and kills by arresting respiration and circulation in approximately one second."

Worthing liked the idea. It was immeasurably superior to the crude firearms he knew. With revolvers, the purpose was simply to tear a large hole in the body, trusting to chance to kill immediately by hitting a vital organ, or else causing death by excessive loss of blood. This was genteel, humane, slaughter.

While walking through the endless corridors toward the lifts, Lanse examined their new friends. At least he hoped they were friends. They were blond, tall, and powerful. The three were dressed exactly alike—green silk-like shorts, green jerseys that left the arms and most of the muscular shoulders bare, brief green socks, and sandals.

"Are all the men blond?" Lanse asked.

They stared at him in amazement. "Of course. We're Nordic, aren't we?"

"Apparently."

They passed a number of the tall, blond inhabitants of the giant structure, mostly men, but several women also, and they were quite as tall as the men, though proportionately less powerfully built. All who passed examined the shorter twentieth-century men curiously, suspicious of something that Worthing and Lanse could not understand.

"We're not exactly welcome here, are we?" Lanse asked.

The tall, young mechanic looked down at him. "You shall find out later," he replied, in a tone that meant everything and nothing.

AST-1

V.

A PARTY of twelve was fishing off Montauk Point, on Long Island, for tuna and swordfish. It was in the early morning of July 5th; the Sun had scarcely risen above the horizon; it was cool, the water motionless and warm. All twelve had enjoyed an excellent night's sleep, despite the momentary vertigo they found they had all suffered during the night, probably due to the inferior quality of imported Scotch they had enjoyed the evening before.

The host, Dr. Albert Crawford, was inclined to argue on that point, but since he had become sick also, he could only swear at the fact that America was the dumping ground of cheap alcohols.

Everything was all right now, though. They had slept well in spite of that and expected a great haul.

Captain Creary and his assistant, "Hard-tack" McNutt, cast the small converted coastguard runner loose and headed out three miles to sea. Meanwhile the twelve men, free from marital and financial worries, set about raising their jubilant spirits to Olympian heights.

By the time Captain Creary had sighted a large school of half-grown herring breaking water—which meant large fish of unknown species—they were in a magnificent state of artificial joy. Two of them were sitting in the baskets of chum, the ground bait that would be cast overboard to attract fish of all sorts, disgusted with the unaccustomed moisture. The others were lolling or flopping about on the smooth deck, laughing at the funny spectacle.

"Here we are, gentlemen," Captain Creary called out when he had cut around the furiously jumping school of silvery bright herring and now idled with the stern to the flashing excitement.

Hard-tack pulled the two out of the baskets and heaved the white mass overboard. No sooner had he done that

than the frightened young herrings turned toward the boat, forgetful of their fear.

The sportsmen staggered to their feet and prepared their rig for heavy battle. As they lined up to the rail there was no evidence of intoxication other than their staggering; years of practice had trained their arms and eyes into extraordinary coördination, for they placed every cast precisely where they wanted it.

For half an hour they fished, without result. They followed that scintillating school of fear-stricken herring, casting exactly at the most moiled part of the school, where the disturbance was, but without a taker.

At last a lawyer named Sowers grew impatient. "What's the largest thing you've got in the ice box?" he asked.

Captain Creary debated a moment. "A big leg of mutton," he replied. "But it's too smackin' big fer any damned fish in these waters."

"The hell with that!" Sowers snapped. "Haul it out."

Hard-tack protested that it had already been cooked, was to make their main meal, and quoted the high price he had paid for it. Sowers was stonily insistent.

Captain Creary had to haul the leg of mutton out of the ice box. He watched despairingly as Sowers fumblingly skewered it on his great steel hook and heaved it over the side as far as he could cast it.

No sooner had it hit the water in the center of disturbance than an enormous black head reared and seized it before it could sink more than a few inches. Two small eyes at the sides of the slimy, black leather head, long ivory teeth that flashed in the sunlight—that was all they could see before it had swum out of sight, bent on more food.

Sowers excitedly snapped back his strong pole, sinking the hook deep into the mouth. A second later a violent

yank on his reel hauled yards of steel line into the blue water. He let it run a hundred yards or so before he set the slow drag.

Immediately he had done so the others were horrified to see him fly over the railing and hit the water with a sharp splash. He still held the rod in his hand, treading water dazedly the while.

The school of herring circled away swiftly, leaving him alone by the side of the boat. For a moment he was pulled out to sea; then, the express-train speed ceased, and he drifted slowly, still holding the rod.

"Drop it!" they shouted.

Dr. Crawford threw him a life-belt and line. Sowers grabbed at it, white with fear.

No man could speak or shout in the seconds that followed. All were stricken dumb with terror.

A black, barrel-shaped body, twenty feet long with a neck the same length, crowded down on poor Sowers, who could only gape at it.

Crawford gained his voice first. "Ichthyosaurus!" he screamed. "Swim! It eats only fish."

But one could scarcely expect the minute reptilian brain of the alien ichthyosaurus to realize that fact. It took precisely two seconds for it to cut Sowers to pieces and swallow the gory result. Then it turned its attention to the boat, capsizing it and eating all but Hard-tack McNutt. Its stomach capacity must have been enormous.

Hard-tack was later picked up by a strange airship as he clung to the pitiful wreckage. The weird airship, in combination with the horripilous events, rendered him completely insane.

VI.

THE ROOM into which Lanse and Worthing were ushered was fairly large. Their three guides were ex-

remely respectful to the four men seated at separate desks; after bowing quite low, they left silently.

"You are of the nineteenth or twentieth century, are you not?" one asked, examining their clothing carefully.

"Twentieth," Lanse replied.

He looked around the room, trying to read some of the titles of the thousands of books lining the walls, but the distance was too great, and, besides, the books had an uncomfortable habit of seeming to turn inside out so that he could see the individual pages. It was as though he was looking at the magic blocks, watching them shift from visible bases to tops.

"Are you fourth-dimensional experts?"

"Well, you could call me that. My friend is just a rich man."

As soon as they heard that, they became more cordial and gave the two of them chairs to pull up to the desks. Lanse and the four others broke into a rapid fire of incomprehensible talk, of which Worthing could understand only occasional words—finite closed space in infinite space, dimensional extension, hyper-time, and not many more.

For hours they talked, Worthing growing more and more bored. At last Lanse turned to him.

"I feel like a child in comparison with these men," he said. "There were hundreds of phenomena we couldn't understand that're perfectly clear now."

"But you must remember," said one smilingly, "we built on your foundations. The amount of work you did with such limited conditions is positively amazing."

Lanse reddened with pleasure. It was the first bit of praise he had ever had from any one he respected. Like wine it quickened his blood, and he became confused, where before his explanations were clear-cut and concise as a written treatise.

"We've been trying to discover what's

happened to the universe," he explained to Worthing. "These four men, Kant, Bassington, Reede, and Russo, are among the most eminent Einsteinian experts of the twenty-sixth century. They've collected a lot of data that we could hardly understand with our present knowledge——"

"In fact," Russo interrupted, "it's probable that we'll never succeed in understanding the results of this cataclysm. Or at best, the slightest amount of study and research will overthrow our most ironclad laws."

Lanse nodded agreement.

"I think that's not quite right," Reede contradicted. "In all likelihood we shall discover that the same laws, with many extensions, will apply to our changed environment."

Kant and Bassington shrugged.

"We know so little of our new conditions, it's better to avoid all prior theorizing," Kant said.

"What the deuce has happened?" Worthing demanded, baffled.

Lanse twisted his chair around to face him. "I'll try to make it as simple as I can, though you won't understand quite a lot of it, because we don't either. And I suppose I'll have to avoid raising any two-sided points; it's hard enough without having to make corrections.

"To start from the beginning: Our universe can be compared to a gas, which is only an analogy and not to be taken as fact. The reason we can compare the structure of the universe to that of a gas is because of the tremendous spaces between the molecules, or solar systems. However, that's as far as we dare bring the analogy. So far as we know, the molecule is the smallest particle of matter that retains the property of the whole. If that is correct, then our universe, which consists of ninety-two elements and their compounds, does not comply with that definition.

"It is only because the submicroscopic molecule and our cosmic molecule obey practically the same physical laws that I bother to remind you of this theory; more to the point—the accident that occurred so recently is happening a billion times a second in the atomic world.

"In the Brownian movement of molecules, we can see these particles rush toward each other, seem to crash, then fly from each other at furious speed. The paths they had followed are changed, and the loss of energy is so small that we can say these mutual repulsions are effected without loss of energy, because of the perfect elasticity of the bodies. We cannot determine the physical result on the two molecules, but we do know they are not destroyed.

"That is as far as the likeness goes.

"What happened to our universe was this: A fourth-dimensional star approached our solar system in the wrong direction, traveling at such a terrific speed that our eighteen miles per second was rendered negligible by comparison; in other words, where the comparison of speeds or energy renders one speed or energy so infinitely small that it has no effect on the result, we ignore the speed or energy.

"Thus we say our solar system, in relation to the fourth-dimensional star, was fixed in space. The other star, moving at nearly the speed of light, consequently with infinite mass, did not actually strike the Sun, but it warped the hyper-space separating the two systems so effectively that its infinite speed was transmitted without loss to our solar systems.

"Just how that was done is not particularly difficult to understand. Gravity, Einstein says, is due to the warping of space; therefore the warping of the interstellar hyper-space was comparable for a brief moment to the bending of a cosmic catapult that hurled our solar system from the fourth-dimensional

star at the rate of speed at which the interloper approached—nearly the speed of light. The probable result, since the transmission of energy and speed from the fourth-dimensional star to our Sun was brought about with practically no loss either of energy or speed, was that the invading star was repelled in the opposite direction, causing it to travel in the orbit of the solar system and at a speed of eighteen miles a second.

"In other words, the speed, energy, and dimensional attributes of the invader were given over to us; the energy and speed left over were passed on to the other star, so that it cannot travel at more than eighteen miles a second, nor have more than three dimensions.

"Besides the adoption of the infinite speed, mass, and energy, we have been the proud receivers of the burden of four dimensions."

"What!" Worthing gasped, turning from one to the other, dazed.

The scientists of the twenty-sixth century nodded.

"Certainly!" Kant said. "At a speed approximating that of light, a body possesses infinite mass, two dimensions are infinitely extended, length is contracted almost to infinity, and time

exists at right angles to the three other dimensions."

"But why didn't the two stars collide?" Worthing asked.

"You can have the formula of molecular pressure in collisions, if you want to determine the pressure exerted between the stars," Kant offered. "It won't do you much good, because you can't find the speed or mass of the other star. Why bother with that, though? We're spinning through space at one hundred and sixty-nine thousand miles a second, and I, of the twenty-sixth century, can talk to you, of the twentieth. We need no better proof."

Worthing stared bewilderedly at Kant, who was frightened at seeing him topple off the chair in a faint.

"Believe me," Lanse said calmly as the others dashed about trying to revive the unconscious man, "I feel like doing the same thing."

VII.

THERE ARE tall mountains in East Africa, mountains that are scarcely known to white man or Negro. They stand marooned in a desert of burning sand and no oases. The distance is not great, just enough to make trekking

Footnote:

Lanse's explanation is singularly poor for so remarkable a man. We can only assume that he was fuddled by Reède's compliment. Even in the light of his knowledge, the phenomenon can be explained much more simply than he attempted to do.

Our Sun and the interloping fourth-dimensional star can be compared with the age-old immovable object and irresistible force, for the mere eighteen miles per second of the Sun as compared with the one hundred and sixty-nine thousand miles per second of the other star is negligible, as having any influence on the result. To that extent alone the analogy is true; as in the molecular world, we suppose, judging from the resulting conditions, that the two stars were *perfectly elastic*.

Lanse placed the masses of the two Suns as being nearly equal. Then, since we know that the velocity of our Sun was eighteen miles per second before collision, and one hundred and sixty-nine thousand after, and the masses of the stars equal, we can use the following formula to find an indication to the result.

Let m_1 and m_2 equal the masses of the two stars; v_1 and v_2 the respective velocities before collision; u_1 and u_2 the corresponding velocities after collision:

$$m_1v_1 + m_2v_2 = m_1u_1 + m_2u_2 \quad (\text{where the velocities of the Sun are known before and after collision, and the masses assumed to be equal.})$$

Consequently, the other star now travels at eighteen miles per second in the opposite direction from which it came; this we know, because, in collisions of *perfectly elastic* bodies, the momentum before collision equals momentum after collision.

The intervening hyper-space is accountable for the lack of a true catastrophe, and the terrific strain the formula indicates when the Sun was reversed in its path, for the dimensional thrust.

—C. C. C.

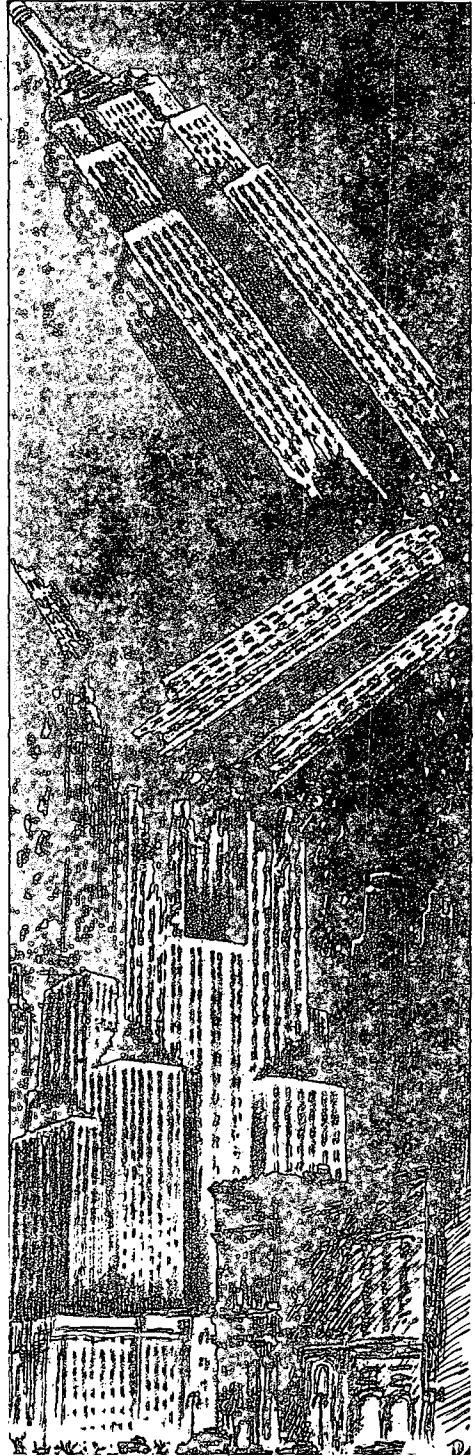
through soft, dust-textured sand more difficult and deadly than crossing the scorching Sahara.

In a deep valley, one hundred and fifty miles or so from Idunda and Killimatinde Stations, and closer to two hundred miles from Lake Rykwa and Mpwapwa, there is an icy, rushing river that flashes down from the high, snow-topped mountains, runs swiftly through the long valley and loses itself irretrievably in the alkaline sand. Where it flows in the valley there is rich black loam and lush grass and trees. All else, outside the valley and on the craggy mountains, is bare, dead, and over all lies the life-destroying alkaline dust.

At the head of the river, just at the point where it tumbles madly off the mountains in a brief, powerful falls, is a two-story house constructed of untrimmed rock quarried on the spot. The river falls turns a small turbine. In the house is a laboratory equipped with the most modern, expensive apparatus, made doubly expensive because the heavy, massive equipment had to be transported by plane.

Hugo Miller—formerly doctor of medicine, until the doctorate was legally taken from him for practicing vivisection on his patients without regard for their social status—found here an ideal location for the pursuit of his questionable practice. In all fairness to the man, he was no monster of cruelty; rather did he balk at no means of acquiring knowledge. Everything was fair to him, provided it permitted an extension of information. Thus, the idea of war was most repulsive to him, for it had no informatory ends other than that of learning to kill the most men in the cheapest manner.

During the night of July 4th, he had spent the entire hours of darkness in his laboratory, busily grafting reptile skin on a dog. At half past two in the morning he was suddenly overcome with a violent spell of dizziness. He



A rumbling explosion, and the building toppled majestically.

threw aside his scalpel and electric needle and fell to the floor, groveling.

"Hugo Miller," he said aloud to himself, when the odd feeling had passed, "you're finished as a surgeon. Your nerves must be as full of holes as a sieve."

To prove to himself, that his hitherto perfect nervous system was unimpaired, he forced himself to thread suspended needles, then proceeded to drink huge quantities of raw Scotch in celebration of his victory. He failed twice in fifty tries of three to a needle.

When the Sun came up, although three empty pint bottles lay on the table, he could walk steadily, catch flies with a single movement of his hand that defied watching, and was otherwise sober. The room, blue with smoke and reeking of alcohol fumes, felt stifling. He went outside.

It was cool. The moist air soothed his tortured pores and calmed his fevered brain. He was convinced that he had narrowly escaped shattered nerves by forcing himself to do his difficult feats and following this by a continuous bout with the whisky bottle. Now, as he stood bathing in the momentarily cool, moist air, he felt young and confident of overwhelming triumph.

His eyes did not hurt, still he thought he was seeing things. The valley, ordinarily green enough, was breath-takingly gay with grass and trees in unprecedented number, and great tropical parasitic flowers of the most dazzling colors were splendid in the sunlight. He looked at the ground, for occasionally a heavy rainfall will bring to life seeds that have lain dormant for generations, though he had to admit to himself that large trees could scarcely grow to full height in a few hours, however great the rainfall. The rich ground was a trifle blacker than usual; it was not wet with rain.

What bewildered him more than the resplendent forest that had grown up

overnight was the fact that he saw hundreds of small animals running, feeding, and sleeping in the grass and trees. Once in a great while, during the time he had lived in the hidden valley, he had seen a few birds roosting for the night in the inhospitable tree-tops. Never, so long as he had been there, had he ever seen ground animals. Even rats shunned the place.

There were small animals, the size of a fox, that left five-toed marks in the soft earth; he did not recognize them. On the banks of the river—he noticed for the first time that it had swollen to three times its size, and he thought the snows must be melting, so that the theoretical rainfall was unnecessary—were things that looked like tortoises, ten or more times as large, with hut-like shells.

They could have been glyptodons, the ancestors of the tortoise, only no sane man could present that ridiculous explanation. Winging down from the mountain, which was now covered with trees, was something that looked like a bat, hundreds of times as large as any bat he had ever seen, with a wing spread of thirty feet or more, wheeling down as effortlessly as a bat flies.

Previously he had been merely numbed with the odd shock of seeing his familiar valley change so greatly overnight. Then he felt the solid ground tremble underfoot, and as he turned to face the mouth of the valley, he screamed with despair.

AT THE SOUND of the harsh cry, the beast lifted its tiny head and peered shortsightedly toward him. It was sixty feet long at the least. The neck was fully twenty feet long, and the tail closer to twenty-five, the body shaped like a hogshead with short forelegs and tremendously thick hind legs. Its nostrils flared and closed regularly as it smelled the air for enemy spoor.

Miller had to admit it was a dinosaur.

He watched nervously as it trotted toward him, shaking the ground with every step, covering the considerable distance in a remarkably short time. When it was several hundred yards from him, he ran inside and seized an express gun. He emptied the magazine and, with his marvelous hands as steady as ever, filed the nose of each large, steel-jacketed bullet so that all bore crosses bitten deeply into the heavy steel.

No longer was he afraid. The solid, rock-bedded ground does not shake under any modern animal, nor could he imagine his trained nerves playing him that trick. So he stepped out of the door, rifle in hand, and waited calmly until the gigantic beast was fifty yards from him. The stupid, vacant eyes stared straight at him; he aimed carefully at the dinosaur's left eye as it slowed down and approached cautiously.

The gun roared. A moment later the deep blast blended with an unholy bellows of pain that shook the mountains and echoed a thousand times from all sides. The dinosaur stopped in its tracks, its tail thrashing from side to side with the force of a trip hammer. Then Miller went back inside, cleaned out his gun and drank another pint.

When he came out four hours later the brute was nearly dead.

By this time Miller was completely sober. The scientific enthusiasm that should have seized him even during intoxication, and had not for the first time in his life, was now aroused to full pitch. As he circled about the dinosaur, he actually gloated over the fortunate chance that had thrown the giant anachronism into his power. The monster still thrashed about, the tail twisting back and forth in a lethal arc although its breathing and heart action were almost stopped. While Miller had been inside, its frantic exertions knocked down a full-sized tree.

It was a mystery how to kill it. He

knew the low nervous system of the huge reptile might keep it alive for days; though unable to move away, he might touch a sensitive ganglion, and dead or not dead the flexion of the muscles affected could easily kill him. So far he had been forced to send a bullet into the tiny brain, which destroyed so much interesting material for him to work on. He hardly cared to work any more damage on the priceless carcass.

Therefore, he went back to the laboratory and worked on the anæsthetised dog for a stretch of seven hours, forcing himself to exercise care in an experiment that had lost interest for him.

Tired, keyed to an impossible pitch, he surveyed the dinosaur once again, eleven hours after he had sent the bullet smashing into the brain. Working by the light of an electric torch, he discovered that the heart had ceased beating and external stimulus applied to nerve centers in the form of pickaxes caused no flexion. Thus he was practically certain that the beast was dead.

He found the left eye torn out of the head, a hole, the size of a dinner plate smashed through the brain and skull. A steel-jacketed dum-dum express bullet is the only thing that will kill a prehistoric monster.

The next morning, after a nervous, expectant night of little sleep, Miller sharpened two axes and a machete and prepared to cut the dinosaur into pieces that he could inspect carefully.

When he straightened up hours later, he was perched on the high scaly back, his razor-edged machete stuck in the stony flesh. But he had memoranda on the nervous system, the digestive tract, and other important functions of the prehistoric animal that he was certain would cause his readmittance to the scientific world.

The dinosaur, he discovered, was herbivorous, with four independent

stomachs. He estimated that the four, which were filled, since the animal had eaten just before being killed, contained approximately six tons of various herbage. There were two brains, or more properly continuations of the spinal cord, one situated at the base of the tail, the other in the skull.

Its eyes were lidded, fixed like a fish's, and nonfocusing. The four lobes of the lungs, differing only in texture from any other land animal's, were capable of containing between one and a half million and two million centimeters of air. His discoveries on its muscular flexion, nervous stimulation and reaction, genitive system, and vascular and skeletal and glandular variations are all too technical for the layman.

He systematized his findings scrupulously; omitting nothing important; so when his pilot landed with supplies he was able to board the plane with the completed manuscript of his monograph.

Manardi, of Italy, Renz and Schreiner of Germany, and Mackay, of the United States, had beaten him to the market months before. A court order for his arrest was served on him as he stepped from the cabin of the plane. He had forgotten all about it.

VIII.

WORTHING and Lanse returned to New York in the twenty-sixth-century airship. It was a wonderful experience for them. The ship employed the warping of space for propulsion; just how it was done Lanse could understand mathematically, but the physical proof was far beyond him. They "loafed along," as Kant expressed it, at a mere seven hundred miles per hour, less than half her top-notch speed.

In New York they were astounded to find perfect order. The newspapers of the various ages had found it possible to organize a scientific committee that

explained in nontechnical language exactly what had occurred. The people accepted the new situation admirably.

True, there was much that required adjustment in living conditions, but resources were unlimited, and the great number of suicides among the fanatically religious reduced the psychological hazards. With the aid of the marvelous airships of the period, the horribly overcrowded streets and houses of all the cities were cleared in a few days. They transported all excess population to reclaimed land in the middle, west, and north of the continent.

Lanse and Worthing learned that outside of the city there was no lack of trouble. Indians insisted on attacking peaceful homes. Colossal prehistoric animals roamed stupidly in from surrounding territory and trampled through the cities, with great damage to homes and life.

A war of extermination had to be fought. The Indians that refused to accept peace terms were slaughtered in large numbers. Explosive bullets of enormous caliber, cold rays, poison gases, traps of all sorts, riddled the continent of the terrorizing animals, with the exception of a few that were saved for zoological curiosity.

When that work was done, political parties arose in dangerous power, gathering around two hundred different presidents of the United States. Enthusiastic patriots offered Lincoln and Washington as presidents; this was taken up in splendid force until it was discovered that both were only men. The disappointment was overwhelming. Lincoln's coarseness of speech and manner, in spite of his adoring biographers' explanations, were not neglected by satirists and cartoonists. Washington scared little children with his wooden false teeth and brutal muscular development. In addition, their knowledge of advanced statesmanship was considered unfit for the new condi-

tions. Both men retired in defeat to anonymity.

At first the struggle was peaceful. The thousands of unemployed congressmen stumped through the country. Candidates for the presidency of the United States of the North American Continent bought time on the radio, making ridiculous speeches and absurd promises. Not many balked at even swearing to correct the projection into the fourth dimension.

Strong feeling and dissension grew mightily. Arguments rose to fist fights. Crowds of milling people halted traffic with their insane battles on the streets. Shootings—later pitched street fights—tore the peace of the country to shreds. Armed mobs attacked others on sight. Desperate bandits roved the country.

IX.

IN PALESTINE it was hot. The baked ground gave up vast clouds of biting, choking dust. No slightest breeze, however scorching, disturbed the dreamily swirling dust.

Through the level, dry plain leading to the low hill on which Jerusalem stands perched, a straggling army of perhaps ten thousand men, women, and children wavered and dragged on toward the city. A more miserable, tired, hungry, thirsty mob of ragged savages could never be imagined. Their sun-blackened, leathery features were distinctly Semitic, perhaps desert nomads who had been robbed of their flocks by infrequent Bedouins. Whatever they were, they exuded hopelessness from every pore.

Just within the famous gate that now hangs on one hinge, they clustered wearily about the drinking fountains in long queues, waiting turns to drink the cool water. Then they formed lines again, with four powerfully built men at the front, supporting among them a highly polished square box of curious

workmanship. Behind them was a tall man, carrying himself with kingly command, and after him the ragged army dragged along.

As they penetrated farther within the city, they encountered strange cries, screams of pain and sharp noises.

A man came running through the narrow street toward them. The kingly man stopped him and was surprised to see blood flowing from numerous wounds in his head and body.

"We are the Chosen of God," the tall leader said to the fainting man in queer, archaic Hebrew. "I am Joshua, leader of the Children of God. We take possession of this land of milk and honey, that our children and their children's children may prosper and increase as the sands of the sea."

Immediately he had finished his speech, the sharp noises and screams came very close. Then they were mixed in with a crush of blood-mad maniacs, armed with weird implements that dealt instant death at a distance.

Jews, Christians, Moslems pressed together—the fight lasted for days—few men were left alive in Jerusalem.

Of the tattered horde that called itself the "Chosen of God," caught in the crazed swarm with almost no weapons, there was none alive. The blackened bodies were a mystery to the searching parties who tried to determine the amount of slaughter done in that battle.

X.

THE COLISEUM at Rome was packed to the entrances. Chairs had been placed in the great arena, surrounding a large platform in the center of the contest ground, for the stone seats that could accommodate seventy-five thousand persons were insufficient. Amplifiers carried every word to all parts of the audience.

Worthing and Lanse were there in that orderly gathering of mathema-

ticians, astronomers, sociologists, anthropologists, archeologists, historians. Every branch of humanitarian knowledge was represented. The foremost men of every century were there—foremost in science, that is, because that moment saw the birth of the power of knowledge.

"It is now half past five in the afternoon," said Husse, a twenty-first-century astronomer and physicist, addressing the audience. He pointed to the east. "You have observed that the Sun rises in the west and sets in the east, since the cataclysm. This, of course, means that the Earth has reversed its right-to-left revolution. In ordinary circumstances, such reversal would destroy everything on its surface, and, in point of fact, the opposing forces would shake the world to pieces. Nothing of the sort happened, though, and I will show you why."

He picked up a round object and held it up to the audience. Lanse, though he had thrown away his glasses, found he could easily focus his eyes on the distant object and saw that it was an orange. Husse twisted it in his hands, as he would if he was peeling it.

It turned inside out.

"You see that I have turned it inside out," Husse went on. "And I did it without breaking the skin. I can turn it back, also without breaking the skin."

He did so. The telescopic powers their eyes now possessed permitted them to see quite easily that the orange was entirely whole. Then he put his hand inside a wooden cube, turned a metal ball inside out, and disappeared from sight.

"The wonders we can perform in our changed conditions," he said, reappearing suddenly, "would seem miraculous in a three-dimension world. Perhaps you do not believe that I have been two days in the future. Yet the changing of duration—passing from one period in time to another—is as simple as walk-

ing from room to room, or the natural progression of the present into the future. If you cared to, you could transmit yourself—body and all—to any period in time after the meeting of the two stars.

"I will explain.

"If you stand in a two-dimensional square, you find you can escape from it without effort. It merely involves the wish to move. The two-dimensional barriers of lines consisting only of length and breadth present no difficulty to you, for you have but to step over them, or travel in a third-dimensional line. A closed cube could not hold you now. By moving in four dimensions you step out of it as easily as if you stepped over the two-dimensional line of a square.

"Now I admit I have reached my limit. Moving in the fourth dimension is comparable to our harnessing of electricity and other unknown forces, for we can certainly move in the fourth dimension, and yet we do not at present know how it is done. Thus we have a metaphysical and a pragmatic explanation; the one involving volition to effect the change, the other stating that it works. A mathematical explanation should not be long in coming.

"Our period of rotation is still twenty-four hours. The revolution about the Sun should be accomplished in three hundred and sixty-five and a quarter days. Beyond the change in direction of rotation and revolution, our world is the same chronologically, except, naturally, for the confusion of the various periods of time.

"You have noticed that at night the east is filled with exceptionably brilliant stars, whereas in the west none are seen, even with the most powerful telescopes. At the speed of one hundred and sixty-nine thousand miles per second, the stars in the direction in which we are traveling are visible in a brilliance that is twice the normal,

owing to the fact that twice as much light arrives from the stars in the east, since the light now reaches our eyes with a total speed of three hundred and fifty-five thousand miles per second. The light from the western stars arrives at a speed of seventeen thousand miles per second, making what was hitherto a first-magnitude star, a star of the one hundred and twenty-first magnitude."

Jensen, a sociologist, stepped up next.

"There are about a trillion and a half people on the Earth at present," he said in his direct manner. "And when I say a trillion and a half I do not mean the equivalent of one million five hundred thousand millions.

"Fortunately weather conditions have remained around normal. A heavy storm, without adequate protection for our population, would have been disaster. By this time we have erected vast buildings in every part of the world. Even the Sahara had to be reclaimed, to provide space. This was done with the help of thirty-second-century engineers and commandeered workers. Still, though every available inch of land has been used, we are grossly overcrowded.

"Food, it stands to reason, must fail in not many weeks. We are using the most advanced synthetic foods; yet we cannot provide it in large enough quantity. The world is faced with starvation."

Silence followed as he sat down. Reporters scribbled furiously. Radio and television carried his words to homes all over the globe. There was a furious debate on the platform.

"They ought to cut off the radio," Lanse said to Bassington, who sat next to him. "Things like that aren't safely told to the people."

A minute later, before the next speaker arose, the broadcast was stopped. Every one felt safer then; the debate on the platform ceased.

"My distinguished colleague is cor-

rect in everything he says," Alonzo Renaldi, another sociologist of the twenty-fourth century said, as he addressed his vast audience. "However, he does not go deeply enough into the subject. The conditions in which we are at present living are even more desperate than he pictures them.

"For one thing, aside from the overpopulation and lack of food, the people all over the world are in constant warfare. Royalists, Republicans, and Communists are fighting for government. The destruction so far has not been much, but it promises to increase greatly. With the government of every country in the world disputed over by every ruler and president that has ever lived, the situation is not trivial. Their followers are incensed to the point of insanity; they are managing to secure arms of all sorts and will not hesitate to use them.

"We cannot exercise martial law, for the soldiers are divided in allegiance. They are willing to follow their leaders, but the leaders do not know whom to follow. Their executives are no longer in power. We succeeded in ridding the world of the danger from prehistoric animals and savages. Our knowledge has been widened immensely. The history of the world from creation to the end of the world is practically complete. Danger from uncivilized men and deadly beasts offered little trouble in its removal. Now we find ourselves confronted with violent dissension everywhere.

"When time was twisted at right angles to the three other dimensions, the result was that every bit of life that ever existed on this Earth, from creation to the end of all life, found itself on the surface of the world, occupying at the same time the same space as every other bit of life that ever existed on earth.

"That reversal of the natural progression of the present to the future,

with the ultimate death and decay of life, was the greatest disaster the world has ever seen. It threatens the existence of mankind. The innate unintelligence of man is about to be proved."

XI.

BUSINESS, except news of all sorts, did not go on as usual. The farming districts were so cluttered with great apartment houses that no man could raise flowers anywhere but in his window boxes. From coast to coast, up and down the entire continent, the country looked like one continuous city. The engineers of the thirty-second century were responsible for that: within eight hours of the catastrophe, they had thrown up more than enough houses to roof all America. And from that point, the twenty-seventh-century-synthetic food factories attempted to feed every one. Men of the other ages were valueless.

Newspapers were still being printed on the inexhaustible overstock of twentieth-century paper producers. Radio news was always up to the minute. For some vague reason—that something or other must go on in spite of everything—the news hounds of the world stuck to their posts.

"There's another appeal from India," Lanse said to Worthing one night, in their room on the seventy-second floor of the Empire State Building, which had been converted into a hotel.

It was for centuries the tallest structure in the world, the last of the towering idiocies, for real-estate values dropped in the 1940's because of the unvarying level of population.

"What do they want this time?" Worthing asked.

Lanse threw the paper down, his face drawn. "This is a serious matter," he said. "There are billions of people in India—how many billions, nobody

knows—all crowded one on top of the other in a country less than a fourth the size of the United States. Plagues are killing them off by the millions. Religious beggars, unable to get food, are stirring them up to war pitch. And now, since there's no way of getting food to all of them—or any fraction—they're turning cannibal.

"That's not all," he rushed on, "things are even worse than that. It's impossible to cope either with India or China. The Chinese refuse to spread their population intelligently. They're starving; the rivers are overflowing—between floods and bandits, both countries are to the wall. According to the paper, there isn't an animal left in either country. They've eaten them all, and now they're becoming cannibals."

Worthing shuddered.

"The fact that we've shipped billions of our people from America and Europe to Africa and Siberia, and covered every inch of their unused land with our cities, is enraging them. They refuse to move, but they resent our using their land. Religious leaders are harping on that, and before long our colonies'll be in plenty of trouble.

"There's nothing Japan and the Africans would like better than to destroy the West. Now that they have unlimited man power, it won't be long before they make moves. I understand Japan has weapons of every sort—rays, gases, bacteria bombs.

"And the West, with their political fights in spite of starvation staring them in the eye, is in no position to fight off a massed attack of religious maniacs."

"It would draw their sympathies closer together," Worthing said.

"That's true. Only remember that we have little defense, and our men are untrained for scientific warfare. I understand that Japan has officers in Africa, and Asia, whipping the men into shape. We're absolutely unprepared

and don't seem to give a hang whether we are. Even this news was all the way in the back of the paper."

This was on August 9th, any year you want. The Lemurians and Atlantistas had been drowned by the countless millions, which affected only themselves. Perhaps it is cruel to mention this fact so harshly; remember that, had Mu and the Atlantis risen from the sea, a vast tidal wave would have wiped out the coast lines as far inland as the mountains of the various continents. In drowning, they averted this disaster, and, in drowning, they did not threaten mankind's existence.

XII.

IN FRANCE an unaccountable war was going on. Huge armies of men were entrenched. Poison gases swept over the land. Both sides were engaged in firing tons of explosive shells into the enemy's ranks. The destruction appeared to be terrible.

The war was discovered on July 5th. Nobody could account for it. Reporters, attempting to get near the front lines, were not answered when they asked questions and, on lingering, came dangerously near death.

Pete Dennis was sent overseas in the beginning of May, 1917, after two weeks of dubious training. He knew how to handle a gun; that, he knew years before, particularly the gentle art of shooting an enemy in the back. Also, he knew his left from his right; he used to carry his revolver in the right-rear pocket of his trousers. The left was the hand that seldom snatched for the gun—process of deduction.

During the night of the Fourth of July the Jerries were singularly quiet—probably out of respect for Independence Day. Yet Pete Dennis was sick during the night—sick for the first time in his life. When he woke in the morning, feeling entirely fit again, he

was too ashamed of his weakness to mention the fact to any one.

But he heard others talking. He was not the only one that suffered that twisting and squirming of his whole body and soul. Therefore, since almost every one had been sick, he guessed it was due to the food. And that baffled him, because he had enjoyed the food as much as he enjoyed anything he could eat.

He relieved the night turn of sharpshooters. The gun he slipped through the hole between the sandbags was cleaned, oiled, and polished until even he was satisfied. He lived for his gun and his food.

The quiet got on his nerves. Not a cannon, not even a rifle nor an Archie, was firing. He had forgotten what it was like not to be hearing cracks and screeches and whistles. He drummed on the stock of the gun to create a little noise.

It was getting light. The last star shell had gone up just as he was forcing a full slice of bread into a mouth full of ham and egg. He rested his cheek on the smooth, polished stock of the rifle and sighted toward the enemy trenches, two hundred yards away.

Something was wrong. He could see the trench as clearly as if he was using telescopic sights, which he had torn off the gun because it made murder too mechanical—took most of the work out of his hands.

He pulled the rifle out of the loophole and stuck his head in as far as he could, testing his eyesight over the entire scene.

In the faint morning haze, thousands of men between the two lines crawled out of heavy woolen sleeping bags and rubbed the sleep out of their eyes. Bronze mail vest clanking, his short sword slapping against the horse's belly, a dark man, mounted, rode proudly through the straggly ranks of

sleepy soldiers, to stop bewilderedly at a barbed-wire fence. Then, stupidly arrogant, irritated at the unfamiliar barrier, he drew his short sword and, leaning over the horse's neck, struck a petulant blow at the meager-looking wire.

A spark leaped between the fence and the sword. As the sword hit and did not cleave, but stuck there instead, the man's face twisted into amazing grimaces of pain. A moment later he toppled. The dead horse fell heavily on him.

Loud shouts and the crack of rifles came from the rear. Pete Dennis whirled around.

Giant yellow-haired men, clad in furs, came tearing down the line from the rear trenches. They attempted to leap the trenches. Soldiers in khaki aimed and fired and ripped at the hurtling, giant bodies.

As they stood face to face in the trenches and hacked at each other—one side with bayonets, the other with iron swords that bent when they struck the stocks of the rifles—every one was bewildered.

Never in their lives had they seen anything so outlandish. Pete Dennis hurled his rifle and bayonet away. The man that leaped into the trench to face him was a bull for muscle. He looked like a darb of a fight.

Pete tore into him with bare fists, never dreaming that so mighty a warrior would spurn his gallant offer and swing his crude sword instead.

But he did.

XIII.

MECCA seethed and boiled. Had it not been a holy city hundreds of the innumerable thousands that congested the tiny city would have been killed. Men awoke in the morning and found the population increased unbelievably—incalculably.

Yet as the Sun rushed headlong over the horizon, worship went on as usual. Muezzins from all over the city stripped the silence with their "Allah il Allah," until it seemed that there was no limit to the number of holy voices proclaiming the power of Allah and the supremacy of Mohammed.

All kicked off their sandals and fell to their knees, touching foreheads to the rough cobblestones. Yet some stood baffled by the strange sights, and irate believers rose and threw them to the ground. And this was odd, because they were truly children of Ishmael.

Years of waking before dawn to attend the camels had become a habit he could not break. Now he moved restlessly about the mansion his wealthy wife had built for him; he wanted something, but he did not know what he wanted. The air, when he looked through the window, appeared cool and clean.

He went out without eating. Soon after, as he walked through the center of the town—which seemed unfamiliar and crowded with weird, otherworldly buildings—the streets filled with people. He knew it was another vision—he had had many in his life. Perhaps, then, he was momentarily in heaven; it could not have been Sheol, for there were none but believers. Soon he would awake, and all would be as before: his wife would nag him and shriek at the servants, men desiring the favor of his wealth would almost grovel in the dirt.

Meanwhile he enjoyed the sight, the spirit of reverence in him.

"There is no God but Allah, and Mohammed is his prophet."

The cry swelled from hundreds of throats. This was novelty. He could not doubt that it was a dream. Mohammed the prophet of Allah! It was like living in a dream he had created for himself.

He was filled with power. Nobody

could harm him. He would announce that he was Mohammed, and all should have to believe him, for it was his dream.

Thus he stepped to a man who had just arisen from his knees on the cobblestones after his silent prayer. When he touched the man's arm, the magnificently bearded, gigantically muscled sheik turned slowly around to stare down at him. The cold, piercing eyes looked questioningly, if haughtily, at him. This was a man such as he always wanted to be.

"I am Mohammed, prophet of Allah," he proclaimed, swelling his thin chest and attempting, against the giant, to appear taller.

"My scavengers are named Mohammed, also," the sheik rumbled menacingly. "Were you not so puny, I should break your back for your sacrilege."

"I tell you—I am Mohammed, the prophet of Allah," he shrilled. "Come with me; my house is not far. You shall stay until you know I am Mohammed."

Curiously the wonderfully muscled sheik followed. It was not starting off well, Mohammed had to admit to himself. Satan had a finger in this dream, he was sure.

The sheik, Ali ibn Ali, wondered if perhaps the prophet had not really come to Earth, to test Ali's devotion by appearing as a weak, undersized man, who could not help incurring Ali's contempt. The rich stuff on his guide's clothing indicated wealth. Perhaps he ought not to jeer, lest the stranger actually was the prophet. When they reached the house, which stood on the hitherto empty sacred space that legend attributed to the site of Mohammed's mansion, he was nearly convinced.

For seven days and nights Ali ibn Ali stayed in the house of the prophet. Then he knew that his host was truly the prophet.

During that time word came from Jerusalem that Ibrahim was alive; from Egypt that the Pharaohs and Joseph and his brothers were living; from all over that their holy men lived once again.

"This is magic," Mohammed said one night, as he and Ali sat in the large main room. "It is not as Allah ordained. It is the work of the devil, the Christians, and the Jews. Allah is angry that we have let them live so long."

"Do you propose a war?" Ali demanded.

Mohammed shrugged. This, then, was the end of his dream. "I cannot lead men to war. They would not follow me."

Should he say what was on his mind? Ali wondered.

"They would follow you," Mohammed said bitterly. The power he had imagined for himself was about to slip from his hands.

Ali suspected what went on in Mohammed's mind. Still, the cause was greater than any single man—greater even than the prophet. Too long had the infidel dogs flaunted their unbelief. Now, by their magic, they caused all men to live simultaneously.

Mecca, the holy city, starved. Mecca was dying of plagues. Believers on all sides were dying before they could kill an infidel and assure their entrance into heaven. The time to strike was this moment, before another man could die.

All he said was true, Mohammed admitted. He had been thinking of the same thing himself. Yet there were tears in his watery eyes. His thin hands shook as he pointed out the details of his plan.

THE WORLD was split in halves. Believers in China, Japan, India, and Africa clustered around the powerful giant who declared himself Mohammed, prophet of Allah. There were billions,

uncountable billions of war-mad people, convinced that their entry to heaven was guaranteed by the slaughter of infidels and anxious to prove it.

Dominating the scene, like a mountain rearing above the hordes of inferior men, was the man called Mohammed, inciting his followers to murder-madness.

Japan took the opportunity without undue excitement—merely as a chance she had long waited for. Though the vast majority of her population was Buddhist, she casually turned Mohammedan and joined the swarm of religious maniacs. It was Japan that built thousands of rockets, that commandeered every ship and airplane, no matter how old or obsolete.

In strange airships that flew sixty miles above the earth, in rickety crates of airplanes, in merchant marine armed with silly little cannon and the most advanced rays, on foot, on camel, on horse, in automobiles, motor cycles, bicycles, and in wheelless runabouts that darted swiftly around ten feet or more off the ground—the eldritch army massed and moved on against civilization.

And at the head, a towering mountain of unshakable strength, was the man known as Mohammed. By his right hand was a mouse of a man; a man given to epileptic fits; a man with the strength of a woman. The military geniuses of Japan hovered vaguely in the background, ludicrously disguised in burnooses, through which their slant eyes, yellow skins, and bridgeless noses would have been clearly obvious had they not stayed hidden behind the vast Mohammed.

XIV.

VATICAN CITY in Rome, Westminster Abbey and the entire area of Mayfair in London, the Kremlin and the Leningrad Museums in Moscow and

Leningrad, the Louvre and the Montmartre district in Paris—all these were destroyed by atomic bombs on the night of August 19th.

Europe shook and staggered under the constantly reverberating concussions that continued diminishingly for three days in the bombed areas. Poisonous gases billowed from the ash heaps of these cities, killing millions more in the congested districts as the wind veered from compass point to compass point.

Food was destroyed; the little left could not be distributed. Numbly, dazed by horror, the people darted about like scared roaches. Pestilence and starvation closed down on them.

On their heels, the army of the faithful swiftly rushed in. Their weapons, in the main, were crude; but Europe could only fight with pitiful steel-throwers and insufficient ammunition at that.

Slaughter was unnecessary. They would have died of starvation, anyhow. But with the blood of an infidel dripping off a sword, one is certain of paradise.

Europe was left a limbo of smoke and drearily whirling atomic dust-clouds. The army of the faithful was scattered over the map. Their numbers were tiny now; disease and starvation had killed off more than nine tenths of the irresistible army. The Japanese cynically imagined a dire shortage of houris in paradise.

EARLY in the morning of the 20th of August an explosion rumbled, as though a volcano in the heart of New York had suddenly burst into activity, and the Empire State Building toppled majestically, bringing down with it building after building that fell one on the other. Manhattan from the Harlem River to the Battery lay in shambles of crumbled cement and twisted, gnarled steel girders.

AST-2

One modified charge of titanite, dropped on 33rd Street, a hundred feet from Fifth Avenue, destroyed the entire city. The structure of the city did the actual work.

THE *L-L-O* headed upward from the mooring mast on top of the Empire State Building at two thirty in the morning of the 20th of August. A moment later, as she hovered six miles above the roof tops, she heaved her nose into the air and proceeded to roll over and over. Cavernous air pockets dashed up against her. She darted into them and banged against the walls of air.

The huge airship of the twenty-sixth century was tossed about like a rowboat on mountainous seas.

Strapped tightly in his seat, the pilot fought the thrashing controls. A wheel kicked back. He heard a snap and was amazed to find his arm hanging limply at his side. The pain was killing.

He flipped a lever with his left hand. All the windows shut hermetically. He was dizzy from the pain in his arm. The straps cut into his body as he flopped against them. Yet he shook his head to clear it and shot the nose of the airship vertically into the sky. At sixty miles he leveled. The air was thin and motionless and cold.

He fainted.

Lanse banged his head against a padded-leather wall. That was the last he remembered. When he opened his eyes, his nose was broken. Blood was clotted all over his head. The air in the ship was freezing cold. But the brilliant light of the Sun flowed through the window.

He stumbled to his feet and out into the darkened corridor of the great airship. The floor was steady under him once more. In the pilot room, the first he visited, he found the pilot, sagging against his tight straps, moaning in a fevered delirium. His arm flapped

uselessly at his side as Lanse carried him from his bewildering maze of controls to a soft bed.

Then Lanse staggered in and out of rooms, dashing water on the faces of his unconscious shipmates. Ribs, arms, legs, facial bones, were broken. No one escaped unharmed. Only one death—a mechanic—was found. His neck was broken.

Five hundred scientists, representing every branch of scientific knowledge, were in the vast ship. Reede, speaking for the American scientists, had called up the food committee at Geneva the day before.

"You have to do something about China and India," Reede insisted. "Anything is liable to happen there. People are starving; they're dying on every side. Put the West on half rations, just so you can show the East you're willing to help."

"There's nothing we can do to help," the chairman of the committee replied brusquely. "We have all we can handle—feeding the West."

"But you can't ignore them! It's too dangerous. The East is just waiting for a chance to incite the people against us."

The chairman shrugged. "We can scarcely take care of ourselves."

Reede slammed the lever down. Every scientist in America was frightened by the prospect of conflict with the Orient, particularly since the Western civilization was slowly cutting itself to shreds by battles over leaders. It took scarcely any time to assemble the five hundred picked men, store the ship with emergency rations, and head over New York for Geneva to force the committee to drop its stupidly deadly attitude.

Another pilot took the controls. They descended slowly in the crippled ship.

At nine and a half miles altitude a bell jangled through the vitals of the

AST-3

ship. The danger alarm! Reede and Lanse dashed for the control room.

"Ship heading for us, sir," the pilot said coolly. "We can't do above a hundred——"

"Heave to, then," Reede ordered. "They'll have no excuse to fire."

A blot on the visa screen enlarged rapidly and formed into a sleek black Japanese fighter of the twenty-seventh century. Manned by a skeleton crew of sixty, armed with blood-congealer death rays and a power blanket that could neutralize the most powerful engines, trimmed down to the last possible ounce for speed and deadliness, it was the most dangerous sky armament ever devised.

The scientists' ship vibrated sharply as it hovered on weak charges of negatived gravity. In a few seconds the enemy plane had closed the gap. They were jounced to one side by the bump of the other ship as it pounded along the berylite skin and clung to the gang hole by its magnets. Every engine in the ship stopped dead. The magnets held the steel of the engines because the skin was of a nonmagnetic metal.

"Open the door," Reede said wearily.

The pilot threw a lever. Steps sounded along the corridor. A moment later the control-room door was thrown open. Small, yellow-skinned men, clad in silk shorts and jerseys, with sandals on their high-arched feet, poured into the room.

"We take this ship in the name of the Orient," the leader barked. He wheeled. "Seize every one on board and vacate the ship."

TWO MEN trained weapons on the pilot, Lanse, and Reede, while three others locked cuffs on their arms and legs. Chained securely, they were then carried through the corridor to the gang hole and into the enemy ship.

By pairs the others were hauled into

the vast hold of the plane until all five hundred scientists and the crew of two hundred were packed in immovably. Then, with a whine of strained motors, the ship climbed into the sky.

The hold was well-lighted and warm. All day they lay there on the floor, unable to move. In the morning and at night they were fed tiny rations of synthetic food capsules. At the last feeding Reede stopped the little Japanese who was distributing capsules on his side of the hold.

"Where are we now?" he asked.

"Why do you want to know?" the man rasped.

"Curiosity."

"Over mid-Europe."

"And the time?" Reede demanded.

The Jap looked at him suspiciously. "Same reason I suppose?" he said sarcastically.

Reede nodded.

"About eight o'clock at night. Maybe you think you can escape. We make good chains cheaper than the world produces outside Japan, and they work good, too. They hold you—yes. And we be over south Siberia in one hour. Maybe you like to live there? Maybe you——"

He turned his back brusquely and went on distributing. Reede lay back. The clank of chains as his fellow scientists raised their arms to reach for the capsules did not annoy him. He waited until the three Japanese had left; then for a few minutes more he stared steadily at the door until he was sure they had left until morning.

Kant, tired, hopeless, and hungry, watched him apathetically. Reede sat up, wriggling between Kant and Lanse, who gazed unthinkingly as he twisted for space to move about. He sat up suddenly, straining his muscles against the heavy steel cuffs. His face contorted as he fought impotently.

He stood up—unchained.

The cuffs clanked to the floor and Lanse shot their heads up, amazed. The sudden motion attracted every one in the hold.

"Quiet!" Reede warned softly. "Sit up."

They did so, as quietly as their chains would permit.

"Now fight to get free. These are three-dimensional cuffs, and you can move in four dimensions. They cannot hold you. It's a mere matter of volition."

LANSE tensed his muscles against the steel. As the cuffs fell, he tried to grab them before they rattled on the floor, but his hand passed right through them. It was just as if he had tried to seize a shadow. The others attempted to do the same thing, with the same result. The noise for a moment was deafening.

Reede elbowed through to the door, closely followed by Kant and Lanse. It was unlocked.

In the yellow-lighted corridor a Jap, standing guard at the door, wheeled at the noise of the opening door. Lanse jumped forward, crashing his fist into the guard's jaw. Reede caught him as he fell.

His eyes glowing furiously, Lanse turned to the others crushing through the narrow door.

"I'm taking command," he said harshly. "I want you to crowd through the entire ship, from top to bottom. Then when every corridor is filled with ten men standing to a door, rush into the rooms and beat down any one you find inside. It's our only chance——"

Through the beryllite corridors they rushed, their shoes ringing on the hard metal. They swarmed up and down spiral stairs into other corridors until the ship seemed filled with mobs of blood-mad warriors dressed in business suits.

But they threw open doors and dashed in recklessly, disregarding deadly weapons that were flashed on them after a moment of stunned surprise. The slaughter on both sides was horrible. Nearsighted scientists stood in the doors, pausing momentarily to focus their eyes on the enemy, and they were mowed down. Others, weak and unaccustomed to fighting, went down, though they fought bravely to the last.

Lanse scuttled through the central corridor, trying to find the control room, which he knew should be near the center of the ship.

"I've got the captain!" some one shouted triumphantly. The cry rang through the din and clatter.

Lanse hurried toward the roar of triumph. The captain stood proudly between two scientists, his arms caught up painfully behind his back in a torturing hammerlock. The pilot was slumped against his straps, his face covered with blood.

"Yell for the pilot," Lanse shouted behind him, to the men in the corridor.

The noise ceased suddenly as a faucet of water turned off. Blood-covered Japs, beaten into submission by the superiority of numbers, lay chained on the floor. The pilot, limping, hauled the Japanese driver out of the straps and sat down to guide the ship.

"Tune in the radio," Lanse said to Reede.

Reede twisted the dial, beginning at the shortest wave and working up the lengths. The screen remained dark; no slightest hum left the amplifier.

"Nothing doing," he said shortly.

The captain shrugged and smiled bitterly. "There was no point in our fighting," he said wearily. "Three minutes ago we heard from our military station in Japan that——"

"Shut up!" Reede snapped.

He increased the power. Static that crackled briefly from the speaker cleared

into a voice with an Oxford accent. The blank screen grayed and darkened. A tired, panic-stricken face worked desperately.

"And for that reason I warn all who can hear me to scramble into airships and head for the sky. Clouds of bacteria, waves of poison gas, are sweeping over the entire world, leaving nothing alive. The murder has been terrific. The whole civilized world is dead. Only savages in remote parts of the Earth are alive. No place is safe but the sky and islands far from the continents.

"For Heaven's sake!" he screamed. "Get away from the Earth. It is mad! It is dying!

"My power is giving out. I have no airship. And clouds of gas are moving down—relentlessly—heavily as——"

The screen grayed. There was a last cry from far away and then silence.

"Now you see what I mean," the captain said at length. "We are the only civilized men alive, I believe. There is no choice for us but to throw our lot in with yours. We saw the military announcer die of gas before his power failed."

Lanse stared down at the floor. He shuddered. "We can depend on you not to fight?" he asked without looking up.

"Why should we fight?" the captain replied. "The men know the situation. Shall we attempt to slaughter you for politics, or religious liberty?" He spread his hands. "There is nothing left to fight for. Our only chance is to share with you."

Lanse turned to the pilot. "Travel until we come to the middle of southern Siberia and hover until morning. Let the Japanese sleep and put guards at all points of the ship," he ordered Reede.

He gazed blankly at the visa screen, which showed stars in the eastern sector of the sky, and blackness where the Earth lay, writhing.

XV.

THE SUN at least was warm, and no yellow or green tinge in the atmosphere warned of poison gases. Bacteria would have to be chanced. Siberia was far enough away from the battle grounds for safety; and if winter ever came, the deadly germs would die for lack of hospitable breeding places, making the world habitable once more.

At any rate, the spot they had chosen in Siberia had been untouched by Western colonizing engineers for some odd reason, though the ground was fairly fertile and the climate comfortable despite its seasonal dryness. Later, when it should be safe to explore the ruins of the wrecked world, perhaps they would get seeds for planting; meanwhile there was sufficient synthetic food to last nearly a year, if they went on iron rations.

Lanse thought, with nostalgia, of a dirty tenement where he had often nearly starved, yet he had been content and sometimes almost happy. Streets now caved in on rusting subways once echoed to the noises of life. Horrors of skyscrapers hugged beauty to them. But all was dead now—the strength of primitive semicivilized men—the intellectual and artistic flower of the third millenium—the peaceful cerebation and intellectual appreciation of the fourth and fifth millenia.

All dead and unburied! And seven hundred and sixty men, representing the accumulated thought of the world, lived—perhaps the last of mankind——

Reede manipulated the visa screen, searching with its telescopic powers the unmarred surface of the Earth beneath him.

"You're a pauper now, Worthing," Lanse said bitterly to his friend.

Worthing shrugged. "I've been one for a long time."

"I think I see a colony—about fifty miles from here!"

The speck of black and white in the yellow-green surroundings could have been almost anything.

"Head toward it," Lanse commanded the pilot.

The speck enlarged to a village, and, as they approached, separated into individual buildings, squat, yellow-and-black stone erections of the crudest architecture. A low wall surrounded the small village; outside, in the warm sun, goats and sheep browsed on the stubbly grass. Beyond the tiny pastures were hundreds of little gardens—pathetic growths of coarse vegetables coaxed and nursed into life.

A twirl of the knob brought the toiling figures to astonishingly large size. Squat, ugly, blocky, with oily yellow skins, they were dressed in swaddling padded clothes that made them seem broader than they perhaps were.

"Land here."

"Maybe we can trade for some seeds," Reede offered.

Lanse said nothing, but kept staring at the unconscious workers below. "I think they're women," he remarked slowly.

"I hope so," Kant replied. "The knowledge of the world won't be lost—nor will mankind."

The ship settled to earth noiselessly. A deputy of men set out to explore the

village, while the others prepared temporary homes and a center for exploring expeditions.

The women stolidly permitted them to inspect the place. In point of fact, during the entire search, they were not only unmolested, but totally ignored.

"We found no men," the leader of the party said when they returned an hour later. "Apparently they went to war and of course haven't come back. There are about four hundred women and Heaven knows how many brats. Plenty of water, but the food isn't growing as well as it should."

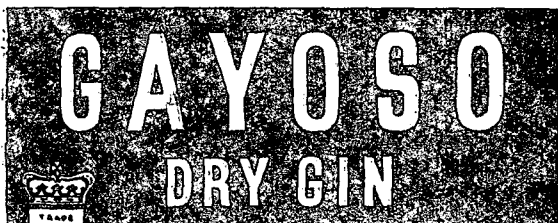
The women raked and hoed in silence. They evinced no slightest curiosity. Untiringly, their powerful bodies labored without cessation.

"At least the race won't perish," Kant said musingly, as he and Lanse sat propped against the side of the ship, watching the clumsy unceasing movements of the short, ugly women.

Lanse idly watched a hornet scout along the wall of the nearest hut. It disappeared under the eaves, to emerge a moment later and fly away. Later in the morning ten or eleven hornets returned, bearing tiny white eggs—two of them, Lanse could see in spite of the distance. More arrived afterward.

The hornets had found a new home.

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And Now Campbell!

In December we bring you a great book-length novel by an author you have asked us to get for *Astounding Stories*. John W. Campbell, Jr., comes to us with a story of vast conceptions, The Mightiest Machine.

One by one, as the months pass, we are bringing all of your favorite writers inside the covers of one magazine—for the first time.

Thinking back, you will remember that outstanding stories were occasional in science-fiction. I feel that we are making them our regular diet.

You see, "getting the authors" is not the whole of the undertaking. You have asked for other names which we have not included as yet—because these others have offered us stories which would be disappointing, and we feel that the story is more important than the name.

We want new plots, new conceptions of time and space; not worn-out plots with stereotyped characters. Anew we are progressing because we have not faltered in our efforts to obtain and give to you the best stories available each month.

There have been two or three letters questioning whether the new type carries the additional wordage we claimed. I can assure them, and you, that we paid for 84,641 words of fiction in the July issue, using the old type; and we bought and paid for 97,900 words in the October issue, using the new type. This in addition to bringing the number of letters in *Brass Tacks* up to 50 from about 25 by reducing that type, too!

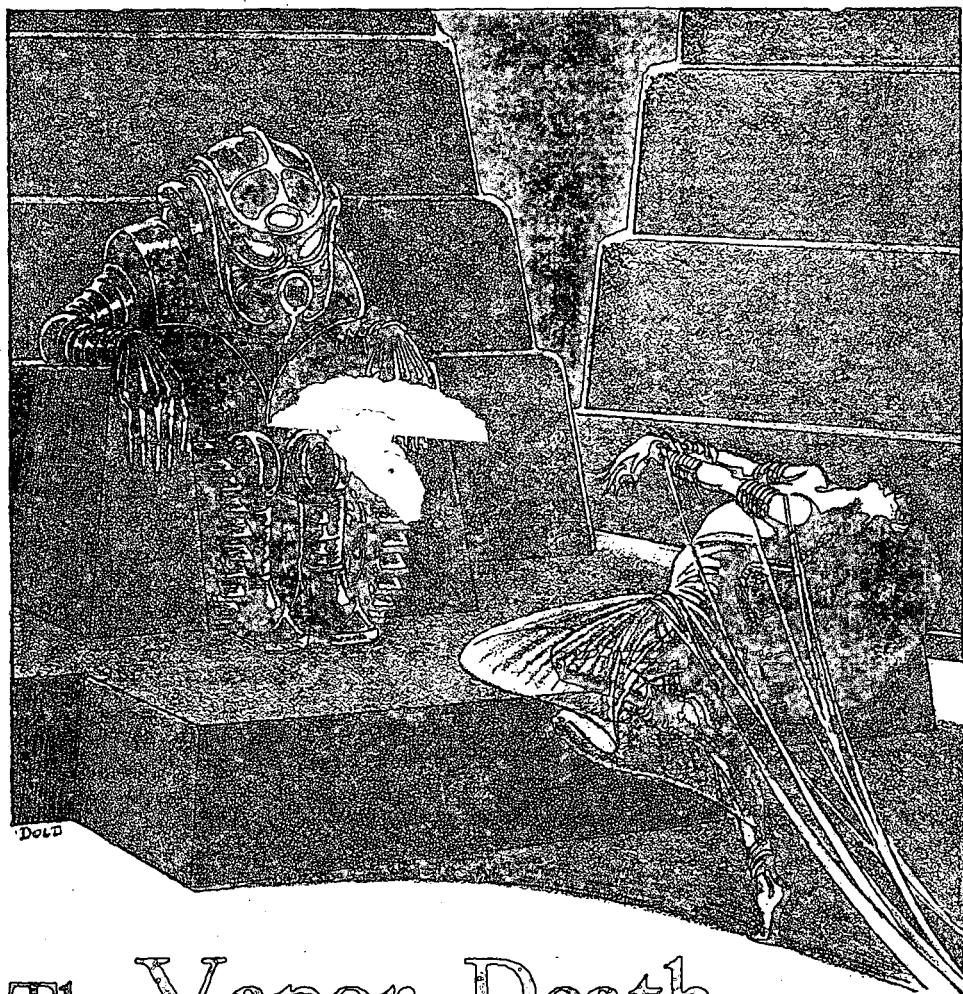
Maybe we've been cheated on our word count—but I don't think so. The composing room doesn't think so, either.

But as to Campbell. He has been called one of the two greatest science-fiction writers. We have obtained great stories from both Smith and Campbell. We aren't waiting for a "psychological moment" to present them. We're pushing them into print as fast as possible, believing that the magazine must keep pace with its promise of continuous improvement.

Don't miss this story. It's Campbell at his best. Diametrically opposed to Smith's theories—but a worthy opponent!

Up to now Rebirth and Lo! have produced the most comment in *Brass Tacks*. I'm hoping these records will fall before the debates as to the divergent thoughts in The Skylark Of Valeron and The Mightiest Machine. They are thought-producing, and thought is life to science-fiction. Isn't it?

—The Editor.



The Vapor Death

*Calamity overhung the impregnable
who had enslaved "primitive" mankind*

*The Asian free
brain rested
immobile in his
metallic casing
and watched
the primitive
dance.*

by Frank Belknap Long, Jr.

THE PRIMITIVE woman danced before the Asian free brain. Her pale face was uplifted to the great horned moon, and her arms were rhythmically weaving serpents in the pale light. Calcon, the Asian free brain, rested immobile in his metallic casing and watched her as she whirled about.

A great responsibility weighed upon him.

The primitive woman knew that Calcon was the undisputed master of three hundred million human brains. In the terraced tower cities of Asia the brains waited impatiently in their cases for his grim decision.

The bodylike cases, she knew, were similar in structure to the one which inclosed the massive complex brain of Calcon. Fashioned of Alugan, a heat-resisting metal invented by Mongolian scientists during the ages of Mongolian supremacy, they were equipped with food and lymph tubes, mechanical palates, flexible metal limbs, and revolving wheels for long-distance locomotion.

The primitive woman had viewed no one but Calcon, but she had been taught about the others. She knew that all men and women had once possessed bodies. For hundreds of thousands of years they had possessed strong, robust limbs, and had walked freely about the world, conquering and destroying others of their kind in merciless physical combat. The primitive woman even knew when and how the race had emerged from a slavish dependence on the physical.

Titanic world conflicts had stimulated the inventive genius of the war makers and paved the way for the rise to world supremacy of the Asian free brains. Through miracles of surgery human brains were transplanted, at birth into prepared Alugan bodies that could resist the extremes of heat and cold and the sinister flame-weapons of the war lords.

The great continent of Asia was inhabited by three hundred million Alugan-bodied free brains. Far away, on the northwestern continent, sprawled Asia's enemy in its immense mountain city. Incased in an impregnable shell of earth and rock this enemy, the Great Brain, was issuing swift commands to its dependent ganglia. The acquisition of a new destructive technique had given a fresh impetus to its dream of world absorption. It was reaching out to enslave and absorb all the free brains of Asia.

From the complex and prodigious central cortex of the Great Brain there radiated thousands of ganglion-flecked filaments. Each ganglion had once

lived an independent existence. Lulan, the primitive woman, shuddered as she danced in mental recoil from the horror that loomed. She knew that if the Great Brain triumphed, all the Asian free brains and all the primitive men and women would be swallowed up in that sinister mental unit.

The Great Brain had absorbed the individualities of two hundred million human beings. Only Calcon now dared to defy and oppose it, but Calcon was not a puny opponent. With a single fervent command he could release planet-devouring furies.

Lulan was a lowly servant of the Asian free brains. She was one of the hopeless, primitive ones. The surgeon assigned to her at birth had botched the operation which had so profoundly transformed the majority of her kind. At a critical moment his hand had wavered, and the delicate transposing filaments had been prematurely severed. She had grown up free-limbed and robust, with a rebellious mind.

As she danced for Calcon to please and divert him while he pondered his grim plans, her gaze was riveted on Mago, who crouched in the shadows behind the Asian free brain's massive Alugan case. Though she danced for Calcon, she had eyes only for Mago.

Mago was a primitive man. But unlike most of his fellow servitors he despised and hated the dominant free brains. In a moment of embittered wrath he had once declared: "Our day will come. They call us primitives, but we are glad that we have limbs and can sing and dance beneath the stars of heaven. They think of us as slaves, but when they rejected nature's gifts they enslaved themselves. When the day of reckoning comes there will be no slaves in Asia."

The muscles rippled silkily in Mago's broad, sun-bronzed shoulders as he crouched in the shadows. He was tall and lithe-limbed, with clear brown eyes.

Calcon turned toward him suddenly, said: "Come here, Mago."

Mago advanced and knelt beside Calcon's case.

Calcon said: "You will pilot the rocket plane."

Mago bowed his head in grim silence. The burnished blue metal surface on which he was kneeling reflected his great muscular form and the boxlike body case of Calcon. The huge audition hall was as silent as the shadows of the primitive man and the primitive girl, who now stood immobile, frozen with fright.

Calcon said: "Turn on the tele-currents, Mago."

Mago nodded and withdrew again into the shadows. Presently a low humming filled the roofless rectangular hall. Throughout the vast continent of Asia the pathways of the ether had been cleared for Calcon's message. At the summit of the audition hall a revolving wireless transmitter hummed a vibrant warning to the millions of listening brains. Across mountains and winding water courses, and the sun-scorched Gobi, went the vibrant drone on swift waves of sound.

CALCON motioned to the primitive woman, and she bowed low and passed quickly to Mago's side. Calcon then attached the tip of a swinging metallic tube to the oral orifice at the summit of his case and announced his decision. Up above, the gigantic transmitter took up the message and sent it forth.

"The Great Brain must be destroyed," affirmed Calcon. "A primitive man will pilot the rocket plane across Asia, Europe, and the Atlantic Ocean. He will destroy the nerve filaments with flame and gas bombs."

Behind the raised platform where Calcon rested, the primitive man was whispering fervent words into Lulan's ear. He had taken her gently by the arm and drawn her toward him. Her

head rested now upon his chest, and her arms were about his shoulders.

"I will destroy the Great Brain," he said. "The bondage that it seeks to impose upon us would be more intolerable than——"

He stopped. Calcon had turned about on his metallic limbs and was regarding him with cold fury. The crystal emotion-indicator on his forehead had turned an ominous purple.

"You will enter the rocket plane and ascend immediately," he said. "You will take the course charted by Free Brain E56."

Mago whispered: "I may not return. If I do not, will you remember Mago?"

Lulan clutched his arm and caressed his bearded cheeks with her slender fingers. Gently Mago freed himself, implanted an ardent kiss on her soft lips, and walked resolutely from the chamber.

As soon as he vanished Calcon descended from his dais and advanced toward her. The deep purple of his emotion-indicator was shot with turbulent streaks of yellow and crimson. He seized her wrist and forced her to her knees.

"My slaves do not embrace in my presence," he rasped. "Have you no respect for me at all?"

Lulan looked up at him. Her pale face was distorted with fright. "He will never return," she said. "You sent him away because you are envious of his strength and wisdom."

Calcon flung her from him with an infuriated oath. As she sank limply to the floor, Mago, who was unaware of her plight, climbed swiftly into the rocket plane. It was lying in a deep black hollow on a seaward slope. It was cylindrical in shape, with glistening metallic rotor blades on its burnished summit.

Mago heaved himself up till his limbs were abreast of the square, casementlike entrance, and crawled on his hands and

knees into the electrically illuminated interior.

Beneath him, fitted snugly into an Alugan compartment at the base of the projectile, reposed fifteen oblong packets of high-powered explosive.

Standing on a pilot's platform just beneath the curving summit, Mago took firm hold of the ignition lever and thrust it vigorously forward.

As the first of the rocket packets ignited, the Alugan pivot at the base of the plane began speedily to revolve. For a moment the plane remained in the hollow, pivoting on its axis. Then a long flicker of scarlet flame enveloped it, and it shot swiftly skyward.

Mago stood on the pilot's platform clinging to a supporting metallic rod and stared with a kind of savage exaltation into the stratospheric mists. A sense of expansion and release flooded his being. Eight miles beneath him the squat, roofless dwellings of Calcon sprawled in the moonlight beside the black, continent-laving Pacific.

He knew that it was the abode of empire, and his heart froze at the thought of it. Froze and then thawed with the sweet, solacing memory of Lulan's fervent embraces. Through a circular glass window he stared at the swinging constellations, the thought of Lulan warming his heart, his mind aflame with a high relentless purpose. He was more powerful than Calcon now, for he held the destiny of a world in his lean and primitive hands.

Up, up the rocket soared, eight miles, and then ten, and then fifteen. Mago continued to stare outward from beneath heavy brows, his eyes narrowed in speculative concern. Suddenly he turned and revolved a dial in the square dark frame at his elbow.

An instant later the plane's trajectory altered. The great cylindrical frame ceased to mount into the chill cold of outer space. Swinging downward in a slow arc it settled into a horizontal posi-

tion and seemed to hang for a moment suspended in the ether.

Mago thrust the ignition switch forward. There ensued a momentary thrumming followed by a flicker of swift scarlet flame. The platform which supported the primitive man had reversed its position in response to the tilt of the plane. As the projectile assumed a horizontal position Mago's body swung about inside, and his eyes came abreast of another window directly beneath the rotor blades on the summit. The summit was now pointing westward.

Mago drew in his breath sharply as the projectile shot forward. The ignition of the second explosive packet was always a hazardous undertaking. Sometimes the packet missed fire; sometimes the plane assumed a wrong angle and could not be righted. A surge of confidence went through Mago's being as the danger receded and vanished.

FOR FIVE HOURS he remained rigidly alert on his platform, grasping the supporting rail and watching the far stars swing about and seemingly shift their positions in the firmament above him. He had exhausted five of the explosive packets, and the rocket was now lighter, more responsive to guidance. He piloted it with a firm hand and turned occasionally to look at the location index on the panel at his elbow.

Across the surface of that luminous disk flowed a continuous stream of pictures. The location engine generated waves of photostatic energy that recorded minutely every variation in the landscape beneath. The waves swept the earth and were drawn back into the rocket by powerful receivers that transformed them into pictures on the flickering disk.

Deserts and mountains, bleak, dismal seas, the wide wastes of the old continent of Europe, the long, marsh-tipped

archipelago called Scandava, the black shallow waters of the Baltic Sea, the Atlantic Ocean turbulent with its immense storm areas and belching volcanoes, had passed in rapid sequence before the luminous disk.

But though the vistas were desolate and awe-provoking beyond belief, Mago did not experience fright. He had gazed upon the bleak and forbidden outlands too often in a telluric recorder in the dwelling of Calcon. It was only when the low-lying eastern marshes of the northwestern continent swept into view that his fingers tightened on the pilot bars, and a tense, somber look came into his face.

The rocket plane pierced the stratosphere above the desolate eastern marshes at an unwavering altitude of fifteen miles until a vista appeared on the disk which caused the blood to mount and then slowly ebb in Mago's cheeks.

Nestling immense and forbidding in the cone of an extinct volcano, the dark abode of the Great Brain seemed a thing alien to the sane and ordered world which Mago knew. So fantastic and distorted were its dimensions, so ominous with a kind of geometrical insanity, that Mago shuddered and drew in his breath sharply as it usurped the white opacity of the location screen.

With thudding pulses he gripped the pilot bar and sent it spinning. The fate of a world hung perilously in the balance as the huge cylindrical rocket plane descended through fleecy layers of sun-flecked cirrus clouds.

It descended twelve miles, in a swift curve, and circled about in the clear, cold air directly above the sinister mountain. The day was one of perfect stillness.

Within on his platform Mago suddenly released long red tongues of destruction with his little primitive hand. From the base of the plane small, cubical flame-and-gas bombs

issued in a continuous stream. Descending swiftly they exploded with a thunderous roar. A spire of fire enveloped the mountain's crest.

IN FAR-OFF ASIA, by the turbulent waters of the gale-lashed Pacific, Calcon gazed into the telluric recorder at the conflict which he had ordained. Colossal transmitters had sent waves of photostatic energy encircling the globe, and the waves were now returning. Transformed into visual images on the telluric screen they filled Calcon with a wild elation.

The luminous telluric recorder rested on a raised platform beside the storm-whipped ocean. Calcon stood grimly before it, his massive case vibrant with emotion, his Alugan hand gripping Lulan's arm.

"When he has blown away the cone," he said, "the Great Brain's flame planes will bring him down."

He raised his free hand and pointed at three wavering dots near the center of the screen. The dots had issued from a funnellike vent in the summit of the flame-wreathed mountain.

Her lips bloodless, Lulan watched them approach Mago's rocket. For a moment she stared in mute agony. Then a cry of exultation burst from her lips. "See," she cried, "he has destroyed the planes!"

As Calcon watched the three planes drop earthward in blazing spirals, his metallic fingers tightened on Lulan's fragile wrist till she winced with pain.

"He will not escape this time," he said.

He pointed, and Lulan perceived with terror that another and larger plane had issued from the vent and was circling in the air above the rocket. The rocket swooped and darted toward it. But unlike its ill-fated predecessors, the plane did not advance to meet Mago's flame guns. Instead, it darted downward in a slow arc, and hung for a

moment suspended in the smoke-darkened air above the crater. Then its summit tilted, and it soared swiftly skyward.

An exclamation of amazement came from Calcon's mouth tube as it vanished from sight. He pulled a lever and shifted the telluric focus. When the plane came into view again it was flying high above the clouds in an easterly direction. Calcon stared at it for a moment in silence; then shifted the focus back to the crater.

As Mago's rocket appeared on the screen a great burst of yellow flame shot heavenward from the gaping mouth of the dead volcano. Calcon knew then that one of Mago's bombs had ignited the gas in the enormous lethal chamber where the Great Brain anæsthetized and absorbed its free-brained captives.

"It is the end!" he exclaimed. "The Great Brain will not survive that explosion." His voice was vibrant with a savage triumph.

Lulan said: "If Mago does not return I shall surely die."

In his momentary exultation Calcon had forgotten the enmity which he bore Mago. But Lulan's brief assertion was a weapon with nine points. Each word pierced him, stinging his senses to a fury of hatred.

Venomously he stared at the victorious rocket. It was rising now, rising swiftly, and suddenly as he watched it a burst of crimson flame belched from its base. Mago had exploded another packet and was ascending into the stratosphere. Far beneath, a mountain that had once flowered redly blossomed again, but its skyward surging flames were no longer of nature's sowing.

Calcon threw back a lever, and the image dimmed and vanished. Lulan was now kneeling on the damp soil a few feet away, her eyes misty with suspense and anguish. For an instant the great lord of Asia, whose will

engirdled the continents gazed down at his little primitive servant and knew in his inmost being that he envied Mago with every drop of his tube-channeled blood.

"Look at me, Lulan," he said, and his voice was no longer harsh and vindictive.

The film vanished from Lulan's eyes. She looked up at him, her face twitching.

"I love you, Lulan," said Calcon simply.

Lulan made no response. She merely continued to gaze at him, and presently as he watched her in an agony of suspense he perceived that her thoughts were elsewhere, and that she had already forgotten that he was standing there beside her.

WITH a groan of despair Calcon turned and moved sluggishly toward the long, roofless audition hall. Up a black gravel slope he climbed in the moonlight, the sea spray glistening on the broad back and tapering sides of his swaying Alugan case.

He looked almost pathetically little and awkward as he toiled up the bleak hillside, which was dotted here and there with ocean-tossed shells and gleaming iridescent jellies.

Presently the dark soil deepened in hue till it shone like black quartz in the moon glow, and the outer corridor of the audition hall echoed to his ponderous tread. Two primitive men came forward as he advanced into the building and knelt at his feet.

Calcon said: "Turn on the telecurrents."

The primitive men nodded and moved swiftly to obey. Calcon relaxed wearily on his dais and waited. A gull screamed in the distance above the black ocean as he waited there in his abode of empire. This proud and lonely being, whose rule was absolute, whose power would have stunned and frightened the

world-subduing Fascist dynasts of the ancient world, sat shivering and miserable and consumed with envy of the lowliest of his minions.

Presently a low humming announced that the pathways of the ether had been cleared for his message. With an effort he attached the tip of the swinging tube to his oral orifice and spoke into the mouthpiece.

"The Great Brain is dead," he said simply.

Throughout the terraced tower cities of Asia three hundred million Alugan-incased brains throbbed with a wild and savage joy. During many somber months the thought of extinction had weighed less heavily on the free brains of Asia than the hideous menace of the Great Brain's magnetically controlled planes.

As they awoke to a stunned realization that the Great Brain's planes would never darken Asian skies again, a retrospective ecstasy flowed through them. They recalled past perils with a kind of vicarious pleasure mingled with relief. They recalled the sinister air raids, the snatching up of relatives and friends, the agonizing speculation as to the Great Brain's surgical techniques, and the final dark mystery of absorption.

The horror had lifted now. They were free—really free, forever now. A great joy flowed through them.

But Calcon knew no joy. He sat brooding in his case, wretched, withdrawn. For several hours he did not move. Then something seemed to rouse him from his lethargy. He arose and looked about him.

THE HALL was deserted. He was about to summon his primitive servitors when an obtrusive wisp of a memory which had been lurking in a corner of his mind assumed menacing proportions. It was like a fly, buzzing about in his brain in an insistent bid for attention. He had tried to drive it away,

to sink back into his lethargy. But now it was buzzing, lighting. His mind filled with it, with the immense, buzzing weight of it.

Calcon arose and speedily left the hall. He descended the black, seaward slope, his Alugan body-case quivering with dread and terror. The dawn was breaking over the sea as he came abreast of the telluric screen.

He did not even glance at the slumbering form of Lulan that reposed beneath a little sloping rock shelter a few feet away. Clutching one of the telluric levers he thrust it forward. Light and shade appeared on the screen; then, more slowly, dark land masses, islands and archipelagoes, fleecy wavering clouds beneath a star-powdered sky.

He manipulated various levers in frantic haste. He saw curling breakers on a storm-lashed coast, billowing masses of cumulus clouds, the star-glitter of far nebulae on deep waters. And then suddenly, amid the surge and turmoil of alien vistas, he saw it clearly. High above the clouds it sped—a long, fly-shaped thing with vibrant wings. It was the last emissary of the Great Brain, roaring through the ether toward Asia.

Calcon threw back the lever, and the image vanished. A groan issued from his Alugan mouthpiece. Lulan awoke, at the sound, awoke and sat up. Her thin tunic was drenched with sea spray. For five hours she had been keeping silent vigil near the screen. She had not dared to manipulate the levers, but to her the screen was a precious mystic link with the unknown. When she slept beside it Mago seemed somehow nearer and his plight less hazardous. It was a woman's foolish whim, but it sustained and upheld her.

When Calcon saw her his body swayed. He advanced to where she was sitting and took her naked little feet in his hands.

"I am afraid Lulan," he murmured. "The last plane that left the Great Brain is still flying eastward. It is very near now."

Lulan's eyes widened. "If it is just a flame plane there is surely nothing to fear," she murmured. "It will be sighted, attacked."

"The Great Brain was wiser than I," said Calcon, in a voice which trembled with a terror-provoked humility. "I have destroyed it, but this plane, this last terrible emissary, may—destroy me."

Lulan's eyes grew suddenly hard. "Does the master of Asia fear death?" she asked.

Calcon said: "I did not until now, Lulan. But now I know that the most glorious solace life can bestow has been withheld from me."

As he spoke his rigid metallic arms encircled her slim waist and tightened about her till she screamed and strained madly away from him. "I cannot die until I know——"

The sentence was never finished. As Lulan struggled to free herself the sky burst into flames above them. A yellow mist descended, slowly enveloping the dark Asian sea slope and the spray-enshrouded headlands beyond. The two little figures by the telluric recorder ceased to struggle even as the clouds of saffron rolled downward.

Calcon fell forward, clutching at the bare rocks with his long metallic fingers while the emotion indicator above his mouth-tube turned green and then yellow and at last faded slowly to a dull gray, flecked with crimson.

He dragged himself toward the screen, his whole body-case trembling. He seemed to experience difficulty in moving his limbs. They responded jerkily to the control mechanism within, and as he raised his arms frantically skyward in a gesture of fierce imprecation, something burst inside of him.

He groaned and fell backward,

clutching the edge of the screen. For a moment he hung there, in sick agony. Then he drew himself erect with an effort and pulled frantically on one of the levers. Light and shadows flickered on the luminous disk. He swayed and clutched another lever. As he did so a red froth appeared on his mouth-tube.

As the long plane swooped downward and passed above the audition hall with a steady, even drone, Lulan sank slowly to the ground in a dead faint. The plane sped onward toward the terraced tower cities of Central Asia.

WHEN MAGO'S rocket plane descended from the stratosphere above the bleak, ocean-lashed coast, the land below was hid in a deep orange mist.

The rocket came slowly to rest on the sloping seaward landing base with a thunderous droning of rotor blades, and revolving auto-gyro vanes. An instant later Mago descended and ran up the dark hill toward the audition hall. His heart was pounding so loudly he feared it would burst in his bosom. He was puzzled and frightened by the saffron mist and the strange, pungent odor which surged heavily on the sea-tainted air. Above all, he was concerned about Lulan.

For an eternity as he clambered upward his mind was darkened with a sense of grim foreboding, of nameless fear. And then, suddenly, he caught sight of her. She was standing on a flat gray boulder looking down at him. Her lips were parted, and there was an exultant glow in her primitive blue eyes.

Before he could recover his breath she was in his arms. Eagerly he kissed her mouth and ran his fingers in rapture through her long silky hair. Her arms tightened about him till his torso ached.

"The tower cities are in ruins, and all the free brains are dead," she murmured. "The Great Brain sent a detached ganglion over Asia in a plane. It was equipped with a new and terrible

kind of vapor-bomb. The vapor corrodes Alugan, dissolves, and destroys it."

Slipping quickly from his embrace she gripped his hand and led him downward again toward the sea. She led him along a pebble-incrusted beach and through shallow rock pools in the shelving strand. As they drew near to the telluric screen, a hideous odor smote upon their nostrils.

A sharp indrawn sound came from Mago's lips when he saw what was lying before the screen. The great Alugan body-case was corroded and eaten away, and the thing that had once been the Asian free brain was a seething mass of corruption.

In the cold light of the moon the proud and lonely master of the planet was returning slowly to the elements, his prolonged mortality but a pitiful mockery now to the vast impersonal forces whose sovereignty he had defied.

The illuminated screen showed a towering volcanic mountain rimmed with black ash and charred ribbons of a dark granular substance that descended in all directions from the circular cone. The ribbons were flecked at intervals with thousands of tiny glittering blebs.

"He sat there and watched the Great Brain die," said Lulan. "He watched the swollen fires subside, and the seared

and writhing brain substance crawl out over the crater's rim. He gloated with a savage malice on the death of his enemy while his own body-case dissolved about him and his own brain decayed. He was a strange creature, Mago—cold and proud and without compassion for any living thing. But at the last I ceased to hate him.

"All the great beauty of the world meant nothing to him, Mago. He lived a sterile and empty life because the love of power was like a fire in his veins. He lived for nothing else until—until something happened, Mago."

Mago gazed at her, and a look of understanding came into his face. He took her gently by the shoulder and turned her about till the sea was at her back, and Orion winked redly at her from beyond the crest of the high hill.

"Up there," he said, "we shall build a new world. All the primitive men and women of Asia, all the lowly disinherited, will help us build it. It will be a world of gardens and sunlight, of beauty and peace and comradeship. The war makers will have no place in it, Lulan."

Lulan looked up at him, and he perceived with amazement and a sudden breathless awe that his vision was already prefigured in her eyes.

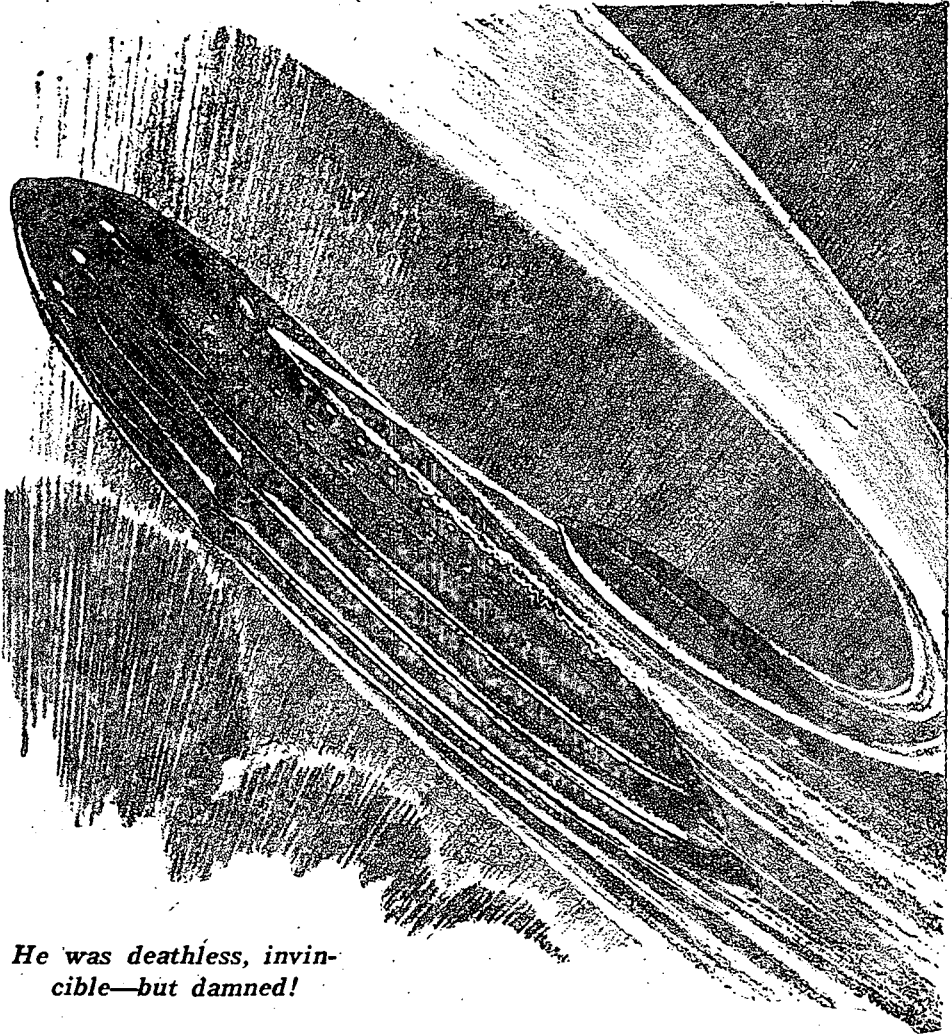
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MAN of AGES by K. F. ZISKA



He was deathless, invincible—but damned!

IT WAS the year 2150. The advances in transportation enabled men to cross oceans in an hour and travel around the earth in ten. Selective breeding had been extended to the human race; there were classes of workers, artists, and scientists. Besides the language of their nationalities, men spoke a universal language, similar to Esperanto.

A football game was in progress in the City of New York. A weighted football, weighing nearly ten pounds, was employed, but the seven-foot giants who played handled it with ease. The game was between the Universities of New York and Chicago, and the score stood at 94 to 13, in favor of New York.

This discrepancy did not astonish

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either the spectators or the news writers, because Johnson was playing on the New York team.

Johnson was the marvel of the world of sports. He had established records at which the world's finest athletes shook their heads in hopeless surrender. A pole vault of twenty-three feet, a broad jump of forty-two feet, a high jump of eight feet and three inches, a mile run in two minutes and twelve seconds—these were some of the records which had left athletes gasping with unbelief.

"Look at that! Look at that!" shouted a sports writer, pointing to the struggle below.

A young man, considerably smaller in stature than the other players, had caught a pass and literally flew across the field. Looks of despair, of baffled determination, spread across the faces of the opposing tacklers who ran to intercept him. He did not try to evade them, but struck them with terrific force and scattered them like so much chaff. Several who somehow had managed to cling to him were dragged along till he had made his touchdown.

"Oh, what's the use," groaned a Chicago rooter, "the man isn't human! New York could let him play the whole damn game alone, and he would still win it."

The game was over. A triumphant New York team carried Johnson from the field on its shoulders. His elevated position gave a good view of him.

He was a young man in his early twenties, and of a complexion so dark that he looked like an Indian, except for his sharply chiseled features. He was smaller by a foot than his teammates and, although of compact build, seemed lithe in comparison to them. Evidently, his exertions told little on him because there were but a few beads of perspiration on his brow, while his bearers were stained with sweat.

Later, in the showers, they playfully

slapped his back. There was something hard, unnatural, about his appearance. He looked like a bronze statue come to life. One of the players pinched his biceps.

"Boy," he exclaimed, "I don't know how you got them, but you sure have muscles! And is your skin tough?"

"Yes," agreed Johnson, brushing off the hand with a touch of annoyance. "I know it." He left the room.

The coach looked after him, a puzzled expression on his face. "Oh, well," he muttered, "what if I can't figure him out! He wins the games."

Johnson was an enigma to his fellow students and teachers. He spoke very little, kept himself aloof from social activities—a difficult thing to do in view of his athletic prowess—and offered no information whatever about himself.

He did not specialize in his studies, but took a general course. He seemed quite interested in physics and chemistry, however, and mastered these subjects with phenomenal rapidity. The head of the physics department took a liking to him and prompted him to specialize in this field.

"Johnson," he said, "you have the mind of a thinker. With study, you may some day become an outstanding scientist. You have been called super-human because of your athletic achievements. Your mind is as great as your body. Why not give it a chance?" Eagerly, the professor peered into the young man's face.

The dark face remained immobile. Its black eyes gazed into distant space. Seemingly, they looked through the professor, forgetting his existence, pondering some hidden thought. They were eyes of age, of wisdom, oddly at variance with the young face.

At last he answered: "Perhaps I may. And now, will you excuse me?" With a short bow he departed, leaving the physicist staring after him.

THIRTY YEARS had passed. Many gray heads, and some bald ones, were sprinkled through a group of men, assembled to celebrate a reunion of Johnson's class at college. Considerable banter passed over the tables and much of it was aimed at him.

"Look at him!" was the universal comment. "Not a wrinkle, not a gray hair, not an ounce of fat. He's found the philosopher's stone. No! He eats yeast. Sh-sh-sh! He takes an atom with every meal."

Johnson sat there quietly, replying with an occasional witticism, but his smile seemed frozen, mechanical. A shadow of relief appeared on his face when the dinner broke up.

IT WAS the year 2250. Centuries of suppressed hatred had united the Mongolian race to wipe out their former oppressors—the Caucasians.

The air forces of the Caucasians quickly assembled to stay destruction. Already, disintegrating rays had decimated the population of unprotected sections of Europe. Deadly gasses, germ-laden bombs, and streams of liquid fire, made living on the surface impossible and drove noncombatants into subterranean chambers.

The English air fleet maneuvered into attacking position. The immense battle cruisers were surrounded by hundreds of small, projectile-shaped scout ships, capable of incredible speed. They darted ahead, forming an apex.

In the foremost of these sat a dark-complexioned man. His face betrayed neither hatred nor joy of battle. Coolly, he watched the instrument board and scanned the sky at intervals. Tiny specks on the horizon quickly grew into the yellow-and-red-striped planes of the Mongolian fleet. There were thousands upon thousands—the total Mongolian strength amassed to deliver one crushing blow.

The battle was on. The American

fleet maneuvered to attack one flank of the invaders, while the European fleet shifted to attack the other flank. The clash of forces soon resolved itself into hundreds of miniature battles, groups of planes attacking similar groups, scout plane engaging scout plane in an effort to withdraw protection from the tremendous cruisers, flying slowly, majestically, as they dealt destruction.

The yellow flyers were superb in their defiance of death, but, as the scene of the battle spread, pitting airman against airman, the superior training and equipment of the Caucasian forces began to tell. Invisible rays cut melting paths through aircraft, sending them earthward. Planes suddenly dissolved into flaming puffs of smoke. Others miraculously broke in half as if sundered by an imperceptible giant sword. Still others lost equilibrium and direction, plunging downward, even though they seemed untouched.

In far-off London, at the British Air Ministry, a number of uniformed men sat in a room of vast proportions. On one of its walls was shown a sector of the battle by means of a televisionary picture. Brief consultations resulted into laconic orders to a row of men speaking into individual microphones. These orders were transmitted directly to the British battle cruisers and informed them of the developments of the entire battle.

Sector after sector was brought into view, showing the staff the rapid shifting of gains and losses. The sector containing what had been the apex of the British fleet was flashed on. The lips of the watching group tightened as they observed the vicious attacks and counterattacks. A cry of admiration was wrung from them.

"My word!" exclaimed a general, sitting bolt upright. "Look at that scout plane!" His finger pointed to a plane which swooped, whirled, and zoomed

dizzily as it attacked a Mongolian cruiser.

The men sat spellbound, shaking their heads at the daring displayed by the unknown aviator. Miraculously, he evaded the planes which attempted to block his mad endeavor. His fellow flyers, divining his intentions, engaged these planes, drawing them away from him, one by one. Unmindful of the few enemy planes which trailed him, he made directly for the gigantic ship.

Clumsily, it tried to turn aside, but like a flash of lightning the tiny ship zoomed up and over its top, raking it from pit to tail with a disintegrating ray. A fine line of smoke marked the trail of crumbling metal, but the massiveness of the cruiser and the rapidity with which the ray had passed over it prevented it from being disabled entirely.

Again, the small plane tried to attack it, but several Mongolian planes, noting the plight of the cruiser, came to its assistance. One of them came directly at the British ship with the deliberate intention of colliding with it, but with uncanny skill the Caucasian waited till the last split second, then sharply swerved and passed the other.

The watching group expelled its collective breath with an explosive sound.

Then one of them recovered his power of speech. "There is only one man in the service who has the skill and nerve to do a thing like that," he announced.

"Jones!" exclaimed several officers in unison.

"Yes, Jones," agreed the speaker. "A hero if there ever was one! As young as he is, death seems to mean nothing to him. Sometimes, I'm led to think that he courts it."

"Rather quiet sort of a chap, as I recall him!" interjected another.

"Yes; he doesn't say much. You know, he refused advancement to the staff, said he preferred service in the

line. And now—quick! He's got him!" Excitedly, he pointed to the screen.

THE SCOUT PLANE had taken advantage of a hole created by numerous dog fights around the cruiser and now traveled alongside. It was so close that the few unengaged Mongolian scout planes which hovered near by dared not attack. Slowly, it traversed the length of the cruiser, playing its ray over the surface. Then, darting through the yellow-and-red planes, it joined a battle between a number of small planes.

The cruiser suddenly zoomed skyward, almost standing on end, apparently out of control. Then it crumbled. Large sections of the ship detached themselves; the last remnant plunged downward.

Seemingly, the tiny plane was not satisfied with its signal victory. Taking advantage of the gap in the Mongolian line, it broke through and repeated its harebrained attack on another cruiser which had arrived to close the line. Again it gave a thrilling performance of aerial pyrotechnics. Ten minutes later another cruiser shared the fate of its predecessor.

A spirit of dare-deviltry possessed the Caucasian flyers as they witnessed the feats of their leader. They appeared to have lost all regard for caution or life as they followed him. The viciousness of their attacks confounded the enemies, caused them to falter momentarily. And when, a half hour later, another yellow supercruiser plunged to earth, confusion spread among the Mongolian ranks.

Immediately, the Caucasian forces pressed their technical advantage. The sheer strength of their frontal attack on the wavering line broke through the enemy's center and forced it against its flanks. The disorganized yellow forces fought stubbornly, but the outcome was

inevitable. Caught between deadly fire from the wedge which had been driven through its center and the circular segments which hemmed its flanks, the yellow fleet attempted to save itself from utter annihilation. But its efforts to withdraw in orderly retreat were circumvented, and it fled in a disastrous rout. The Mongolian fleet was shattered.

A young British officer, visibly embarrassed, shook hands with his fellow officers who were ringed about him. His face, naturally dark, was darkened still further by the blood which flushed his cheeks. His protestations, half amused, half annoyed, were unheeded. A babel of congratulations rained on him.

"Well done, Jones—— You're a blooming hero—— Deserve those medals—— Let's celebrate—— Don't be a bloomin' violet—— You've got to come——"

IT WAS the year 2350. A spare, elderly man laid a sheet of paper on top of a mass of notes. He wiped the steam from his glasses and peered near-sightedly at an assembly of medical men. Except for a few nervous coughs, an unnatural silence gripped the scientists. Dr. MacPherson, the speaker, had just revealed the results of his experiments. They offered a seemingly impossible hope—a millenium in the science of medicine.

"My work dares us to expect unbounded possibilities," he resumed, "but in order to realize them there is a price that must be paid. I am convinced that my serum will arrest all diseases caused by bacteria and, before long, eradicate them entirely. Up to the present I have confined my experiments to animals, but now—now I must test my findings on the human body."

He drew his frail body erect. "I believe you know me well enough to know that I do not lack personal courage. I

am too old to be afraid of death. On the other hand, I could probably find some poor devil who would welcome this means of committing suicide. But he could not help me. I must have the coöperation of a scientist who can give me exact descriptions of his reactions, uninfluenced by fear or hysteria. I have given a lifetime to this work. Success is nearly within reach. I cannot die till I have achieved it."

His slender frame trembled visibly with the intensity of his emotions. His eyes flashed, his arms spread with mute appeal. He finished, speaking slowly, in a low, vibrant voice: "It means almost certain death. Who will volunteer?"

The scraping of a chair broke the silence which followed his appeal. A young man, dark-haired, with black piercing eyes, stood erect. "I am ready!" he announced. There were no dramatics, no flourishes in his quiet announcement.

The tension broke. Three, four men jumped to their feet. "No! No!" one of them protested, vehemently. "Take me! He is young. He has a full life before him. Take me! I insist on it!"

"And what, please, is wrong with me?" asked another of the volunteers.

"And me?"

Despite the seriousness of the occasion, smiles appeared on the faces of the audience, and there were a few barely suppressed titters.

Doctor MacPherson wiped beads of perspiration from his forehead. He eyed the young man in puzzlement. "The point which Dr. Swanson has raised," he decided, "seems to be well taken. May I ask why you volunteered, Dr. Smith? You are a young man. You have already made a name for yourself, and I believe you will go far."

The eyes of the entire gathering focused on the youthful candidate for death.

"If I must give a reason for my de-

cision," he replied, "I am willing to do so. However, I must insist on giving you this information in strict privacy. May I suggest that you take the names of the doctors who have volunteered. Then, after you have heard my reason, if you should decide against me, you may choose any one else."

He turned to the standing men. "Does this proposal suit you, gentlemen?"

They accepted with an alacrity which bespoke their apparent relief.

DR. SMITH leaned back comfortably, holding a goblet of wine against the soft light in Dr. MacPherson's study. "To the success of your experiment!" he toasted.

"To its success!" echoed MacPherson.

They sipped thoughtfully. The older man tried to read the other's face, but it was devoid of expression and gave no hint of its owner's feelings.

"How old do you take me to be?" asked Smith suddenly.

"About thirty-five, but——" He hesitated.

"But?" prompted the young man.

"But I have an odd feeling that you are much older."

Smith nodded. "You're right. Physically, I am thirty-three years of age. But, counting years of terrestrial chronology, I am three hundred and eighteen years old."

"Three hundred and eighteen years?" MacPherson sat bolt upright. "That's impossible, man!"

"Impossible, you mean, doctor. Unfortunately, it is true!" Every word was tinged with hopeless weariness. "I have grown tired of this thing called life. I am filled to surfeit with its cruelty, its stupidity, and its suffering." He waved a hand—a forlorn gesture. "Do you wonder that I volunteered for your experiment?"

"But how could you have attained

such an age?" interrogated MacPherson.

"I don't know how much of a physicist you are, doctor, and I think I can explain it best with an example. Let us suppose that two men of the same age lived on the earth. Let us further suppose that one of them remained here, while the other—if such a thing were possible—flew through space at a tremendous speed. As his speed increased, so would the inertia of his mass.

"Atomic activity within his body would decrease greatly, and the physiological processes of his body would slow down proportionately. His breathing would be slower, his heart beat less often, in short, he would live much slower. Depending on the speed he traveled, he would age one year while the man on earth aged twenty years, fifty years, or even a hundred. If then our traveler returned to earth after several years, the man who had remained would be fifty or a hundred years old, or more likely be dead and buried. Is that clear so far?"

"Quite! An interesting point in physics, but how is it to be applied to your own case?"

"Not in the same way, of course, but it was applied nevertheless. If it had not been, I would not be here talking to you. And now to my story. My father and mother lived in the twentieth century. He was a physician who spent most of his life doing research work of one kind or another.

"His interest in biometry and a natural bent for physics led him to speculate on the possibilities of prolonging life through means other than those usually adopted by physicians. He attacked his problem by considering the human body as so many atoms, following recognized physical laws. The question in relativity which I expounded to you started him on a line of experiments which at last culminated in me.

"If he could reproduce a similar inertia of matter, he could arrest the expenditure of energy and lengthen life far beyond its normal span. But here he struck an almost insurmountable barrier. If through some means he could induce this inertia in a human body during its fetal stage, its period of growth would exceed the life of its mother, and it would be highly problematical if artificial delivery would preserve its life.

"Plainly, he could not attempt his experiment till after the birth of the child. Even if he should succeed, the child might take a century or more to grow to maturity. Who would supervise its upbringing, its education, or defray its living expenses? These considerations quickly caused him to abandon the earlier course of his work."

SMITH took another sip and puffed at his cigar.

MacPherson, who had hung on every word, relaxed and slowly shook his head. "Just think," he remarked, "that millions of people read trashy novels as a sublimation of their uneventful lives when a little study of the sciences would open to them a vast field of astounding interest."

Smith smiled cynically. "My dear doctor," he reproached, "a story such as mine would never fit into their scheme of things. Being beyond the scope of their comprehension, they would undoubtedly jail me or cry for my blood. But I am getting off the track. Well, as I was saying, he found it necessary to proceed along other lines.

"At that time he was the father of three children, my sister, an older brother, and myself. My sister and brother who lived natural lives have been dead many many years. I was one of those children who sometimes happen in the late years of marriage; I was an infant when my brother and sister were already matured. That, I

suppose, accounted for the fact that my father conferred his gift on me.

"Believing that matter and radiation could be interchanged—which is not difficult to believe if we think of them as two kinds of waves, one traveling round and round in circles, the other in straight lines—he considered matter as nothing but a sort of greatly compressed radiation, traveling at less than its normal speed. Why should it be impossible to transform the waves which make up the human body, providing, of course, that such a transformation did not disturb bodily functions sufficiently to cause death? As a doctor, you know the revolutionary changes in the study of cytology which his work made necessary. His was a bold step, and no one suspected his reason for it.

"As a result of his investigations he developed an apparatus which he called a wave synchronizer. It would take too long to explain it in detail, and I shall touch only on its fundamentals. It was constructed similar to an X-ray tube, emitting radiation. Through induction, he harnessed the immense energy of the cosmic ray. He was unfamiliar with the application of this vast store of energy, and his earlier experiments with animals produced surprising results.

"There was the case of the guinea pig which weighed seventy pounds just before its death. There was a chimpanzee which retained its normal weight, but shrank to the size of a cat. There was a dog which almost ruined the laboratory. He could jump its entire length, forty feet, in one leap. And there was a sparrow larger than a full-grown turkey.

"He could translate energy into mass, or vice versa, but was unable to control the physiological reactions of his experiments. All of them proved fatal to the animals long before they attained a normal span of life.

"In the year of 1950, when I was a

young man of eighteen—my actual age then—he finally solved this problem. From my infancy till that time he had struggled unceasingly. If he had not been a wealthy man, he could never have carried on. Even so, the construction of the apparatus needed for his work consumed the greater part of his wealth.

"Now came a crucial point in his life. On whom was he to try his final experiment? He was faced with a serious question. If he was right and the experiment proved successful, the person who received this almost divine gift would live long after he was dead. He might well unleash a potential force of horrible evil because he felt certain that this characteristic would be transmitted through heredity. Dare he attempt it?

"Just then a circumstance arose which forced his decision. I was attending college at the time and carried far more work than was good for me. I caught a bad cold. My resistance was low because of overstudy, and I developed double pneumonia. My fever rose rapidly, and father was called. The doctors who attended me frankly expressed their fears. My death was imminent.

"ALL THAT medical science could provide had been done," Smith went on. "In desperation he decided to perform his experiment on me. If it would arrest the fever, I might pull through. There was serious danger in performing it, but there was little hope for me otherwise. The apparatus was transported, and I was subjected to his wave-synchronizer. The fever quickly subsided, but I was in for the battle of my life.

"Although my health improved slowly, I grew thinner from day to day. I was ravenously hungry and ate astonishing quantities of food. With the aid of a dietician, father contrived a diet of highly concentrated foods. I seemed

to be in a constant stupor. Through a haze, I could see him approach me, pat my shoulder, and admonish gently, 'Eat, my boy! Eat!'

"It may have been a fantasy born of my illness, but I thought that his eyes held a strange gleam whenever he looked at me. I was too weak, however, to give it much thought.

"I began to feel a little stronger and stopped losing weight. I still ate voraciously; there seemed to be no way to satisfy my ever-present hunger. For several weeks my condition remained stationary, then I started to put on weight. I no longer felt ill, although a feeling of extreme lassitude held me bed-fast. My mind now functioned more clearly, and I noticed with alarm that my rate of breathing was two or three times as slow as it had been before my illness.

"Several doctor friends of my father were dumfounded when they discovered that my heart beat was twelve times a minute. They published numerous accounts of this in medical journals, and I would have been examined a hundred times a day if father had not forbidden it.

"Four months had passed till I reached this stage of recovery. I did not know the reason at the time, but I found that my flesh had become strangely firm—almost like leather—and my skin had darkened till I looked like a desert Arab. A few weeks later, father permitted me to take short walks. I still noticed a feeling of tiredness, but otherwise I felt as well as ever. Just the same, he insisted on giving me a daily treatment with his rays. Claiming that I was not fully recovered, he would not allow me to return to school, but made no objections when I resumed my studies at home.

"I did not know what had happened to me till I made a strange discovery. Although I had observed that I seemed much stronger, I attributed this to my

long rest and thought nothing of it. One day, I felt that the chair near my desk was uncomfortable and decided to change it for a morris chair which stood in another part of my room. This chair was of leather, and quite heavy.

"I leaned over to lift it, straining my muscles to support its weight. I was stupefied with surprise when I found myself holding it on a level with my shoulders. I set it down again, refusing to credit my senses. I lifted it again and easily raised it above my head. Something had happened. I rushed out of the room to tell father.

"He bounded to his feet when I told him. 'I have done it! I knew it!' he shouted, with exultation. 'Show me! Come on!'

"I returned to my room and repeated this feat of strength. By this time I realized that I was endowed with super-human strength. Curiously, I lifted piece after piece of furniture until he stopped me.

"Shortly afterward I observed another unbelievable fact. I had weighed about one hundred and eighty pounds before my illness. I knew I had gained in weight because my build had become stockier. One evening, after a bath, I went to the laboratory and ascended the scale. The dial spun dizzily past the two hundred mark and stopped at four hundred and sixty pounds.

"I looked at the figure and shook my head. It could not be. The scale must be wrong. Father was out, and I called my brother to weigh himself. He got on, and the scale stopped at one hundred and sixty-four—his weight. 'What is it?' he asked, curiously, noting the strained expression on my face. Right then I knew that I dared not tell. 'Nothing,' I replied. 'I just thought the scale was wrong.'

"Before I returned to school, father took me into his study. He looked serious. 'James,' he said, 'I must give you a warning. Through my treatment

you have acquired physical characteristics possessed by no other human being. Human nature is strange. It resents the unfamiliar. History is replete with cases of persecution of individuals who dared to stray from familiar paths. You are young and have not yet learned these unfortunate facts. Please follow my advice and don't show that you are different. It will save you many a heartache.'

"I sensed the truth of his advice and promised him to follow it. Youth is headstrong and impetuous. You have no idea what it meant to me not to display my prowess. Even though I easily broke all athletic records, I never really extended myself. If I had, life would soon have been unbearable. Nevertheless, I gradually became the target of malicious envy."

MacPHERSON'S thoughts returned to the land of reality. "It is well that I have scientific training, otherwise I, too, would scoff. However, I am also human. May I—do you mind if I feel your biceps?"

Smith smiled with understanding. "Not at all!" he agreed. He leaned forward, flexing his arm. "Feel!" he invited.

MacPherson's fingers tightened over the other's arm. Disbelief spread over his features as he felt the muscles. Truly, they might be designated as muscles of steel. They were smooth and hard, resisting pressure with the density of a metal.

"I still did not know," continued Smith, "what my state really meant. I merely thought I was extremely strong, but, apart from that, no different from any one else. In fact, I did not know till a few years later when my father told me on his deathbed. He had meant well, but never realized that his gift might become a curse.

"Like the Wandering Jew, I have traveled over this earth, knowing no

peace, finding no rest. I have never known the blessings of love, fearful of transmitting my fate. I could not stay in any community over twenty or thirty years, lest my secret should be revealed. Can you imagine the natural revulsion fostered in the heart of a normal person who would see me, year in, year out, never changing, eternally young? Would he think me else but an inhuman monster?"

"You are overwrought, my boy!" counseled the older man.

"My boy!" repeated Smith with a bitter laugh. "Even you make the same error. I am eight or nine times as old as you, and you say 'My boy!' Several times I tried to terminate my existence, but father did his work too well. It would be a horrible death, indeed, which would destroy me. Your experiment is one way out. Won't you grant me that favor? I am tired, utterly tired."

"But my experiment may not prove fatal," expostulated MacPherson.

"Frankly, how much chance do you think the average person would have of surviving it?"

"Very little!" admitted the scientist grimly.

"Another thing!" pleaded Smith. "I could withstand the dangers of it much better. I would survive longer, and you would have a better opportunity of studying my reactions. Think of how much that would help you!"

MacPherson pondered. He raised his head with sudden decision. "All right!" he agreed. "I will take you."

A WEEK later Smith submitted to the experiment. Surrounded by doctors and scientists, MacPherson administered the first injection of his serum. The watchers observed Smith narrowly. Were they mistaken or did they detect a faint smile of happiness on his face? They could not be sure; it was too fleeting.

Smith's temperature rose to an alarm-

ing degree. He babbled deliriously of happenings which had occurred a century, two centuries ago. He directed a squadron of flyers during the Caucasian-Mongolian war. He performed amazing feats of athletics and contributed valuable data to science.

"Fever!" declared the attending corps of doctors.

MacPherson's eyes narrowed, but he remained silent.

The second and last injection was about to be given. "We do not believe he will survive it," stated the physicians. "He is in grave danger now."

MacPherson thought of Smith's desperate pleas. He thought of the work to which he had devoted his life. He thought of the blessing to humanity it promised, if he should be successful. His lips drew into a straight line.

"I must!" he announced. The second injection was given.

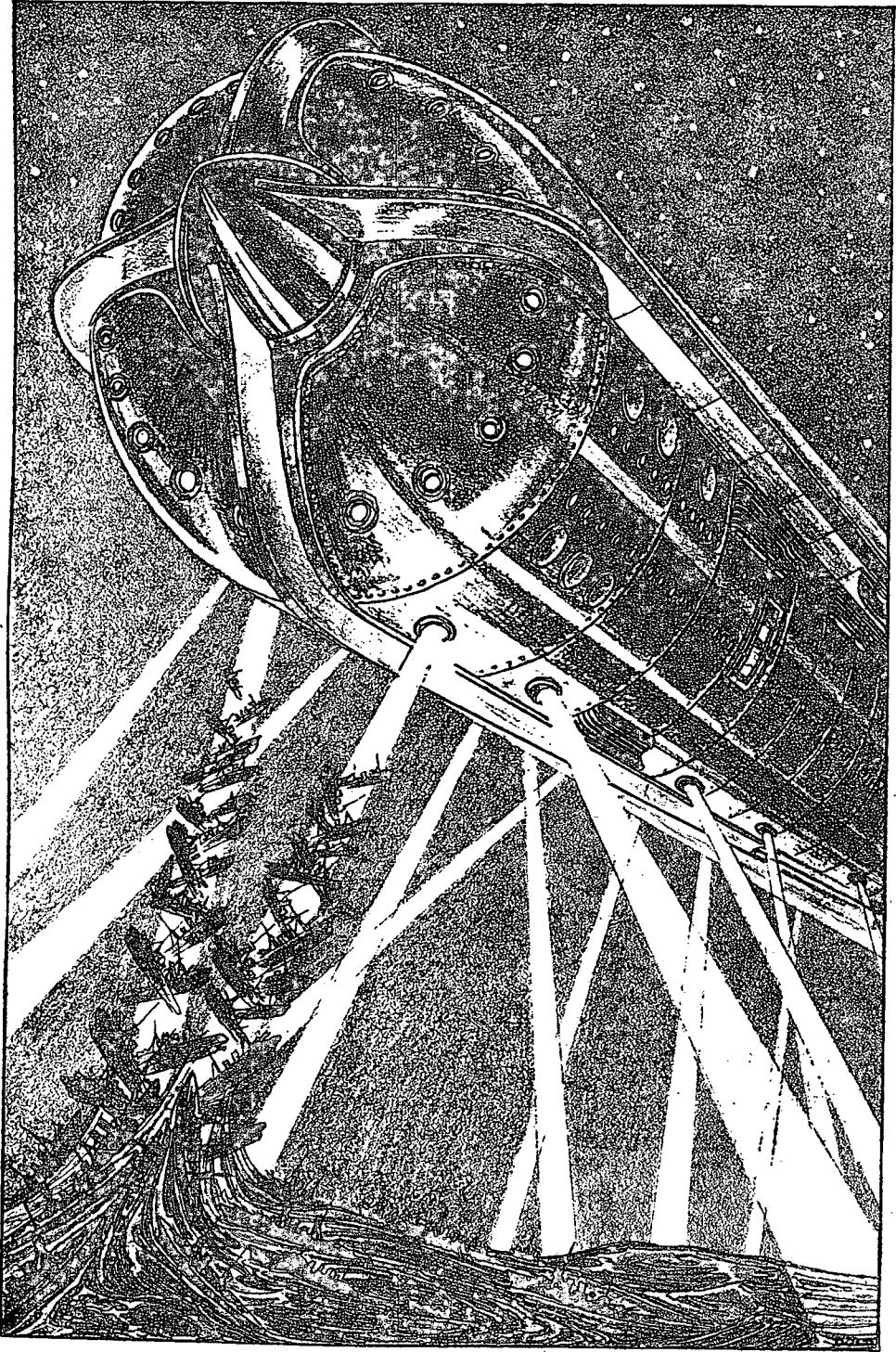
For two weeks Smith hovered between death and life. His resistance was incredible. The doctors visited him, examined him, and shook their heads. MacPherson stood by, torn with conflicting emotions. He dared not confide in any one, and the struggle within his soul tortured him.

The crisis passed. Smith lived. He recuperated with a rapidity which left the physicians doubting their knowledge. MacPherson frankly admitted that he had erred and that his serum would have killed any one else. But—his eyes blazed with the intensity of a fanatic—he would keep on. He would succeed yet.

They faced each other, their hands clasped in parting. "Why are you going?" asked MacPherson.

"I must go!" answered Smith. "I had thought—I had hoped—oh, well, it was not to be. And so I shall go on—and on. Good-by!"

"Good-by!" said MacPherson. He hesitated, then added: "My boy!" There was a suspicious glint in his eyes.



"To-morrow morning," the cold, clear voice went on, "every unit of the American navy will float in Great Salt Lake."

The Skylark of Valeron

*Part Three of the great story of titanic
combat between Seaton and DuQuesne*

by Edward E. Smith, Ph. D.

UP TO NOW:

Richard Seaton liberates the intra-atomic energy of copper. He and Martin Crane build a space ship, "Skylark of Space." Brookings, wily head of the World Steel Corporation, tries to steal the invention. Failing, he calls in DuQuesne, an unscrupulous chemist, who raids Seaton's laboratory. DuQuesne builds a space ship from the stolen plans and abducts Dorothy Vane-man, Seaton's fiancée, and Margaret Spencer. Out of control, his ship drives through space until her copper is exhausted..

Seaton and Crane follow DuQuesne by means of an "object-compass" focused upon him, and effect a rescue. The "Skylark" wins free from the attraction of the Dark Mass, but her fuel is low. Several planets are visited: one rich in the catalyst, one having an atmosphere of chlorin, and one materialized by a group of beings purely intellectual in nature. Escaping from these entities, they fly toward a group of green suns.

They land upon Osnome and are of service to Kondal, a nation of that world, against Mardonale, its other nation. Dunark, of Osnome, and Seaton, operating a "mechanical educator," accidentally superimpose the entire brain of each upon that of the other. Seaton marries Dorothy, Crane marries

Margaret. They return to Earth, DuQuesne escaping just before landing.

Summoned by Dunark, Seaton and his friends return to Osnome in "Skylark Two." On the way they meet and defeat a war vessel of the Fenachrone, a monstrous race of immense scientific attainments whose goal is universal conquest. DuQuesne, bent on destroying Seaton, rescues a survivor of the warship and agrees to return him to his own planet in exchange for his help in stealing a Fenachrone battleship. Both are lying—DuQuesne has no intention of liberating the prisoner, and the Fenachrone engineer intends to betray the Terrestrials to the Fenachrone guard ships.

In quest of a science to equal that of the Fenachrone, Seaton visits first Urvania, a planet then at war with Osnome; Dasor, a watery planet inhabited by a race of almost amphibious humanity; and lastly Norlamin, where he finds the high science he seeks.

Rovol, First of Rays, and Drasnik, First of Psychology, each impress upon Seaton's brain a large measure of his own knowledge. They build a fifth-order projector and destroy all the Fenachrone vessels in space save one, which has left this Galaxy entirely. It is decided to destroy the planet of the Fenachrone by bombs of atomic copper. "Skylark Three" is built, and Seaton sets out after the fleeing vessel,

coming out victorious in a battle of giants.

DuQuesne and Loring, his assistant, drug their captive Fenachrone engineer and read his mind. They capture, first a scout ship and then a first-class battleship, in which they escape the explosion of the whole Fenachrone planet. DuQuesne then goes in search of Seaton, but does not find him.

Seaton succeeds in generating waves of the sixth order and learns that thought lies in that level. "Skylark Three" is attacked by the purely intellectual entities. To escape them, Seaton rotates "Two," which has been carried as a lifeboat, into the fourth dimension. DuQuesne, pretending to be Seaton's assistant, visits Norlamin and persuades Rovol to build for him a duplicate of "Skylark Three"—ostensibly to go to Seaton's aid; in reality to make him supreme upon Earth.

VIII.

SIX MIGHTY rotating currents of electricity impinged simultaneously upon the spherical hull of *Skylark Two* and she disappeared utterly. No exit had been opened and the walls remained solid, but where the forty-foot globe of arenak had rested in her cradle an instant before there was nothing. Pushed against by six balancing and gigantic forces, twisted cruelly by six couples of angular force of unthinkable magnitude, the immensely strong arenak shell of the vessel had held and, following the path of least resistance—the only path in which she could escape from those irresistible forces—she had shot out of space as we know it and into the impossible reality of that hyperspace which Seaton's vast mathematical knowledge had enabled him so dimly to perceive.

As those forces smote his vessel, Seaton felt himself compressed. He was being driven together irresistibly

in all three dimensions, and in those dimensions and at the same time he was as irresistibly being twisted—was being corkscrewed in a monstrously obscure fashion which permitted him neither to move from his place nor to remain in it. He hung poised there for interminable hours, even though he knew that the time required for that current to build up to its inconceivable value was to be measured only in fractional millionths of a single second.

Yet he waited strainingly while that force increased at an all but imperceptible rate, until at last the vessel and all its contents were squeezed out of space, in a manner somewhat comparable to that in which an orange pip is forced out from between pressing thumb and resisting finger.

At the same time Seaton felt a painless, but unutterably horrible, transformation of his entire body—a rearrangement, a writhing, crawling distortion; a hideously revolting and incomprehensibly impossible extrusion of his bodily substance as every molecule, every atom, every ultimate particle of his physical structure was compelled to extend itself into that unknown new dimension.

He could not move his eyes, yet he saw every detail of the grotesquely altered space ship. His earthly mentality could not understand anything he saw, yet to his transformed brain everything was as usual and quite in order. Thus the four-dimensional physique that was Richard Seaton perceived, recognized, and admired as of yore his beloved Dorothy, in spite of the fact that her normally solid body was now quite plainly nothing but a three-dimensional surface, solid only in that logically impossible new dimension which his now four-dimensional brain accepted as a matter of course, but which his thinking mentality could neither really perceive nor even dimly comprehend.

He could not move a muscle, yet in some obscure and impossible way he leaped toward his wife. Mobile though tongue and hand, yet he spoke to her reassuringly, remonstratingly, as he gathered up her trembling form and silenced her hysterical outbursts.

"Steady on, dear, it's all right—everything's jake. Hold everything, dear. Pipe down, I tell you! This is nothing to let get your goat. Snap out of it, Red-Top!"

"But, Dick, it's—it's just——"

"Hold it!" he commanded. "You're going off the deep end again. I can't say that I expected anything like this, either, but when you think about things it's natural enough that they should be this way. You see, while we've apparently got four-dimensional bodies and brains now, our intellects are still three-dimensional, which complicates things considerably. We can handle things and recognize them, but we can't think about our physical forms, understand them, or express them either in words or in thoughts. Peculiar, and nerve-wracking enough, especially for you girls, but quite normal—see?"

"Well, maybe—after a fashion. I was afraid that I had really gone crazy back there, at first, but if you feel that way, too, I know it's all right. But you said that we'd be gone only a skillionth of a second, and we've been here a week already, at the very least."

"All wrong, dear—at least, partly wrong. Time does go faster here, apparently, so that we seem to have been here quite a while; but as far as our own time is concerned we haven't been here anywhere near a millionth of a second yet. See that plunger? It's still moving in—it has barely made contact. Time is purely relative, you know, and it moves so fast here that that plunger switch, traveling so fast that the eye cannot follow it at all ordi-

narly, seems to us to be perfectly stationary."

"But it *must* have been longer than that, Dick! Look at all the talking we've done. I'm a fast talker, I know, but even I can't talk that fast!"

"You aren't talking—haven't you discovered that yet? You are thinking, and we are getting your thoughts as speech; that's all. Don't believe it? All right; there's your tongue, right there—or better, take your heart. It's that funny-looking object right there—see it? It isn't beating—that is, it would seem to us to take weeks, or possibly months, to beat. Take hold of it—feel it for yourself."

"Take *hold* of it! My own heart? Why, it's inside me, between my ribs—I couldn't, possibly!"

"Sure you can! That's your intellect talking now, not your brain. You're four-dimensional now, remember, and what you used to call your body is nothing but the three-dimensional hypersurface of your new hyperbody. You can take hold of your heart or your gizzard just as easily as you used to pat yourself on the nose with a powder puff."

"Well, I won't, then—why, I wouldn't touch that thing for a million dollars!"

"All right; watch me feel mine, then. See, it's perfectly motionless, and my tongue is, too. And there's something else that I never expected to look at—my appendix. Good thing you're in good shape, old vermiform, or I'd take a pair of scissors and snick you off while I've got such a good chance to do it without——"

"Dick!" shrieked Dorothy. "For the love of Heaven——"

"Calm down, Dottie, calm down. I'm just trying to get you used to this mess—I'll try something else. Here, you know what this is—a new can of tobacco, with the lid soldered on tight. In three dimensions there's no way of getting into it without breaking metal

—you've opened lots of them. But out here I simply reach *past* the metal of the container, like this, see, in the fourth dimension? Then I take out a pinch of the tobacco, so, and put it into my pipe, thus. The can is still soldered tight, no holes in it anywhere, but the tobacco is out, nevertheless. Inexplicable in three-dimensional space, impossible for us really to understand mentally, but physically perfectly simple and perfectly natural after you get used to it. That'll straighten you out some, perhaps."

"Well, maybe—I guess I won't get frantic again, Dickie—but just the same, it's altogether too perfectly darn weird to suit me. Why don't you pull that switch back out and stop us?"

"Wouldn't do any good—wouldn't stop us, because we have already had the impulse and are simply traveling on momentum now. When that is used up—in some extremely small fraction of a second of our time—we'll snap back into our ordinary space, but we can't do a thing about it until then."

"BUT HOW can we move around so fast?" asked Margaret from the protecting embrace of the monstrosity that they knew to be Martin Crane. "How about inertia? I should think we'd break our bones all to pieces."

"You can't move a three-dimensional body that fast, as we found out when the force was coming on," Seaton replied. "But I don't think that we are ordinary matter any more, and apparently our three-dimensional laws no longer govern, now that we are in hyperspace. Inertia is based upon time, of course, so our motion might be all right, even at that. Mechanics seem to be different here, though, and, while we seem solid enough, we certainly aren't matter at all in the three-dimensional sense of the term, as we used it back where we came from. But it's all over my head like a circus tent—I

don't know any more about most of this stuff than you do. I thought, of course—if I thought at all, which I doubt—that we'd go *through* hyperspace in an instant of time, without seeing it or feeling it in any way, since a three-dimensional body cannot exist, of course, in four-dimensional space. How did we get this way, Mart? Is this space coexistent with ours or not?"

"I believe that it is." Crane, the methodical, had been thinking deeply, considering every phase of their peculiar predicament. "Coexistent, but different in all its attributes and properties. Since we may be said to be experiencing two different time rates simultaneously, we cannot even guess at what our velocity relation is, in either system of coördinates. As to what happened, that is now quite clear. Since a three-dimensional object cannot exist in hyperspace, it of course cannot be thrown or forced through hyperspace."

"In order to enter this region, our vessel and everything in it had to acquire the property of extension in another dimension. Your forces, calculated to rotate us here, in reality forced us to assume that extra extension, which process automatically moved us from the space in which we could no longer exist into the only one in which it is possible for us to exist. When that force is no longer operative, our extension into the fourth dimension will vanish and we shall as automatically return to our customary three-dimensional space, but probably not to our original location in that space. Is that the way you understand it?"

"That's a lot better than I understood it, and it's absolutely right, too. Thanks, old thinker! And I certainly hope we don't land back there where we took off from—that's why we left, because we wanted to get away from there. The farther the better," Seaton laughed. "Just so we don't get so

far away that the whole Galaxy is out of range of the object-compasses we've got focused on it. We'd be lost for fair, then."

"That is a possibility, of course." Crane took the light utterance far more seriously than did Seaton. "Indeed, if the two time rates are sufficiently different, it becomes a probability. However, there is another matter which I think is of more immediate concern. It occurred to me, when I saw you take that pinch of tobacco without opening the tin, that everywhere we have gone, even in intergalactic space, we have found life, some friendly, some inimical. There is no real reason to suppose that hyperspace is devoid of animate and intelligent life."

"Oh, Martin!" Margaret shuddered. "Life! Here? In this horrible, this utterly impossible place?"

"Certainly, dearest," he replied gravely. "It all goes back to the conversation we had long ago, during the first trip of the old *Skylark*. Remember? Life need not be comprehensible to us to exist—compared to what we do not know and what we can never either know or understand, our knowledge is infinitesimal."

She did not reply and he spoke again to Seaton:

"It would seem to be almost a certainty that four-dimensional life does in fact exist. Postulating its existence, the possibility of an encounter cannot be denied. Such beings could of course enter this vessel as easily as your fingers entered that tobacco can. The point of these remarks is this—would we not be at a serious disadvantage? Would they not have fourth-dimensional shields or walls about which we three-dimensional intelligences would know nothing?"

"Sweet spirits of niter!" Seaton exclaimed. "Never thought of that at all, Mart. Don't see how they could—and yet it does stand to reason that

they'd have some way of locking up their horses so they couldn't run away, or so that nobody else could steal them. We'll have to do a job of thinking on that, big fellow, and we'd better start right now. Come on—let's get busy!"

Then for what seemed hours the two scientists devoted the power of their combined intellects to the problem of an adequate fourth-dimensional defense, only and endlessly to find themselves butting helplessly against a blank wall.

Baffled, they drifted on through the unknowable reaches of hyperspace. All they knew of time was that it was hopelessly distorted; of space that it was hideously unrecognizable; of matter that it obeyed no familiar laws. They drifted, and drifted—futilely, timelessly, aimlessly, endlessly—

IX.

WHEN *Skylark Three* left Norlamin in pursuit of the fleeing vessel of Ravindau, the Fenachrone scientist, the occasion had been made an event of world-wide interest. From their tasks everywhere had come the mental laborers to that stupendous event. To it had come also, practically en masse, the "youngsters" from the Country of Youth; and even those who, their life work done, had betaken themselves to the placid Nirvana of the Country of Age returned briefly to the Country of Study to speed upon its epoch-making way that stupendous messenger of civilization.

But in sharp contrast to the throngs of Norlaminians who had witnessed the take-off of *Three*, Rovol alone was present when DuQuesne and Loring wafted themselves into the control room of its gigantic counterpart. DuQuesne had been in a hurry, and in the driving urge of his haste to go to the rescue of his "friend" Seaton he had so completely occupied the mind of Rovol that that aged scientist had had no time to

do anything except transfer to the brain of the Terrestrial pirate the knowledge which he would so soon require.

Of the real reason for this overweening haste, however, Rovol had not had the slightest inkling. DuQuesne well knew what the ancient physicist did not even suspect—that if any one of several Norlaminians, particularly one Drasnik, First of Psychology, should become informed of the proposed flight, that flight would not take place. For Drasnik, that profound student of the mind, would not be satisfied with DuQuesne's story without a thorough mental examination—an examination which, DuQuesne well knew, he could not pass. Therefore Rovol alone saw them off, but what he lacked in numbers he made up in sincerity.

"I am very sorry that the exigencies of the situation did not permit a more seemly leave-taking," he said in parting, "but I can assure you of the coöperation of every one of us whose brain can be of any use. We shall watch you, and shall aid you in any way we can."

"Farewell to you, Rovol, my friend and my benefactor, and to all Norlamin," DuQuesne replied solemnly. "I thank you from the bottom of my heart for everything you have done for us and for Seaton, and for what you may yet be called upon to do for all of us."

He touched a stud and in each of the many skins of the great cruiser a heavy door drove silently shut, establishing a manifold seal.

His hand moved over the controls, and the gigantic vessel tilted slowly upward until her narrow prow pointed almost directly into the zenith. Then, easily as a wafted feather, the unimaginable mass of the immense cruiser of space floated upward with gradually increasing velocity. Faster and faster she flew, out beyond measurable atmospheric pressure, out beyond the outermost limits of the Green System, swinging slowly into a right line

toward the point in space where Seaton, his companions, and both their space ships had disappeared.

On and on she drove, now at high acceleration; the stars, so widely spaced at first, crowding closer and closer together as her speed, long since incomprehensible to any finite mind, mounted to a value almost incalculable. Past the system of the Fenachrone she hurtled; past the last outlying fringe of stars of our Galaxy; on and on into the unexplored, awesome depths of free and absolute space.

Behind her the vast assemblage of stars comprising our island universe dwindled to a huge, flaming lens, to a small but bright lenticular nebula, and finally to a mere point of luminosity.

For days communication with Rovol had been difficult, since as the limit of projection was approached it became impossible for the most powerful forces at Rovol's command to hold a projection upon the flying vessel. In order to communicate, Rovol had to send out a transmitting and receiving projection.

As the distance grew still greater, DuQuesne had done the same thing. Now it was becoming evident, by the wavering and fading of the signals, that even the two projections, reaching out toward each other though they were, would soon be out of touch, and DuQuesne sent out his last message:

"There is no use in trying to keep in communication any longer, as our beams are falling apart fast. I am on negative acceleration now, of an amount calculated to bring us down to maneuvering velocity at the point to which the inertia of *Skylark Two* would have carried her, without power, at the time when we shall arrive there. Please keep a listening post established out this way as far as you can, and I will try to reach it if I find out anything. If I fail—good-by!"

"The poor, dumb cluck!" DuQuesne sneered as he shut off his sender and

AST-4

turned to Loring. "That was so easy that it was a shame to take it, but we're certainly set to go now."

"I'll say so!" Loring agreed enthusiastically. "That was a nice touch, chief, telling him to keep a lookout out here. He'll do it with forces, of course, not in person; but at that it'll keep him from thinking about the Earth until you're all set."

"You've got the idea, Doll. If they had any suspicion at all that we were heading back for the Earth they could block us yet, easily enough; but if we can get back inside the Solar System before they smell a rat it will be too late for them to do anything."

He rotated his ship through an angle of ninety degrees upon her longitudinal axis and applied enough downward acceleration to swing her around in such an immense circle that she would approach the Galaxy from the side opposite to that from which she had left it.

THEN, DURING days that lengthened into weeks and months of dull and monotonous flight, the two men occupied themselves, each in his own individual fashion. There was no piloting to do and no need of vigilance, for space to a distance of untold billions of miles was absolutely and utterly empty.

Loring, unemotional and incurious, performed what simple routine house-keeping there was to do, ate, slept, and smoked. During the remainder of the time he simply sat still, stolidly doing nothing whatever until the time should come when DuQuesne would tell him to perform some specific act.

DuQuesne, on the other hand, dynamic and energetic to his ultimate fiber, found not a single idle moment. His newly acquired knowledge was so vast that he needs must explore and catalogue his own brain, to be sure that he would be able instantly to call upon

whatever infinitesimal portion of it might be needed in some emergency.

The fifth-order projector, with its almost infinitely complicated keyboard, must needs be studied until its every possible resource of integration, permutation, and combination held from him no more secrets than does his console from a master of the pipe organ. Thus it was that the Galaxy loomed ahead, a stupendous lens of flame, before DuQuesne had really realized that the long voyage was almost over.

To his present mentality, working with his newly acquired fifth-order projector, the task of locating our Solar System was but the work of a moment; and to the power and speed of his new space ship the distance from the Galaxy's edge to the Earth was merely a longish jaunt.

When they approached the Earth it appeared as a softly shining, greenish half moon. With fleecy wisps of cloud obscuring its surface here and there, with gleaming ice caps making of its poles two brilliant areas of white, it presented an arrestingly beautiful spectacle indeed; but DuQuesne was not interested in beauty. Driving down from the empty reaches of space north of the ecliptic, he observed that Washington was in the morning zone, and soon his great vessel was poised motionless, invisibly high above the city.

His first act was to throw out an ultra-powered detector screen, with automatic trips and tighteners, around the entire Solar System; out far beyond the outermost point of the orbit of Pluto. Its every part remained unresponsive. No foreign radiation was present in all that vast volume of space, and DuQuesne turned to his henchman with cold satisfaction stamped upon his every hard lineament.

"No interference at all, Doll. No ships, no projections, no spy rays, nothing," he said. "I can really get to work now. I won't be needing you for

a while, and I imagine that, after being out in space so long, you would like to circulate around with the boys and girls for a couple of weeks or so. How are you fixed for money?"

"Well, chief, I could do with a small binge and a few nights out among 'em, if it's all right with you," Loring admitted. "As for money, I've got only a couple of hundred on me, but I can get some at the office—we're quite a few pay days behind, you know."

"Never mind about going to the office. I don't know exactly how well Brookings is going to like some of the things I'm going to tell him, and you're working for *me*, you know, not for the office. I've got plenty. Here's five thousand, and you can have three weeks to spend it in. Three weeks from today I'll call you on your wireless phone and tell you what to do. Until then, do as you please. Where do you want me to set you down? Perhaps the Perkins roof will be clear at this hour."

"Good as any. Thanks, chief," and without even a glance to assure himself that DuQuesne was at the controls Loring made his way through the manifold airlocks and calmly stepped out into ten thousand feet of empty air.

DUQUESNE caught the falling man neatly with an attractor beam and lowered him gently to the now-deserted roof of the Perkins Café—that famous restaurant which had been planned and was maintained by the World Steel Corporation as a blind for its underground activities. He then seated himself at his console and drove his projection down into the innermost private office of World Steel. He did not at first thicken the pattern into visibility, but remained invisible, studying Brookings, now president of that industrial octopus, the World Steel Corporation.

The magnate was seated as of yore in a comfortably padded chair at his

massive and ornate desk, the focus and the center of a maze of secret private communication bands and even more secret private wires. For Steel was a growing octopus and its voraciously insatiable maw must be fed.

Brookings had but one motto, one tenet—get it. By fair play at times, although this method was employed but seldom; by bribery, corruption, and sabotage as the usual thing; by murder, arson, mayhem, and all other known forces of foul play if necessary or desirable—Steel got it.

To be found out was the only sin, and that was usually only venial instead of cardinal; for it was because of that sometimes unavoidable contingency that Steel not only retained the shrewdest legal minds in the world, but also wielded certain subterranean forces sufficiently powerful to sway even supposedly incorruptible courts of justice.

Occasionally, of course, the sin was cardinal; the transgression irremediable: the court unreachable. In that case the octopus lost a very minor tentacle; but the men really guilty had never been brought to book.

Into the center of this web, then, DuQuesne drove his projection and listened. For a whole long week he kept at Brookings' elbow, day and night. He listened and spied, studied and planned, until his now gigantic mentality not only had grasped every detail of everything that had developed during his long absence and of everything that was then going on, but also had planned meticulously the course which he would pursue. Then, late one afternoon, he cut in his audio and spoke.

"I knew of course that you would try to double-cross me, Brookings, but even I had no idea that you would make such an utter fool of yourself as you have."

As he heard the sneering, cutting tone of the scientist's well-remembered voice, the magnate seemed to shrink

visibly; his face turning a pale gray as the blood receded from it.

"DuQuesne!" he gasped. "Where are you?"

"I'm right beside you, and I have been for over a week." DuQuesne thickened his image to full visibility and grinned sardonically as the man at the desk reached hesitantly toward a button. "Go ahead and push it—and see what happens. Surely even you are not dumb enough to suppose that a man with my brain—even the brain I had when I left here—would take any chances with such a rat as you have always shown yourself to be?"

Brookings sank back into his chair, shaking visibly. "What are you, anyway? You look like DuQuesne, and yet—" His voice died away.

"That's better, Brookings. Don't ever start anything that you can't finish. You are and always were a physical coward. You're one of the world's best at bossing dirty work from a distance, but as soon as it gets close to you you fold up like an accordion.

"As to what this is that I am talking and seeing from, it is technically known as a projection. You don't know enough to understand it even if I should try to explain it to you, which I have no intention of doing. It's enough for you to know that it is something that has all the advantages of an appearance in person, and none of the disadvantages. None of them—remember that word.

"Now I'll get down to business. When I left here I told you to hold your cockeyed ideas in check—that I would be back in less than five years, with enough stuff to do things in a big way. You didn't wait five days, but started right in with your pussyfooting and gumshoeing around, with the usual result—instead of cleaning up the mess, you made it messier than ever. You see, I've got all the dope on you—I even know that you were going to try to gyp me out of my back pay."

"Oh, no, doctor; you are mistaken, really," Brookings assured him. He was fast regaining his usual poise, and his mind was again functioning in its wonted devious fashion. "We have really been trying to carry on until you got back, exactly as you told us to. And your salary has been continued in full, of course—you can draw it all at any time."

"I know I can, in spite of you. However, I am no longer interested in money. I never cared for it except for the power it gave, and I have brought back with me power far beyond that of money. Also I have learned that knowledge is even greater than power. I have also learned, too, however, that in order to increase my present knowledge—yes, even to protect that which I already have—I shall soon need a supply of energy a million times greater than the present peak output of all the generators of Earth. As a first step in my project I am taking control of Steel right now, and I am going to do things the way they should be done."

"But you can't do that, doctor!" protested Brookings volubly. "We will give you anything you ask, of course, but—"

"But nothing!" interrupted Duquesne. "I'm not asking a thing of you, Brookings—I'm *telling* you!"

"You think you are!" Brookings, goaded to action at last, pressed a button savagely, while DuQuesne looked on in calm contempt.

BEHIND the desk, ports flashed open and rifles roared thunderously in the confined space. Heavy bullets tore through the peculiar substance of the projection and smashed into the plastered wall behind it, but DuQuesne's contemptuous grin did not change. He moved slowly forward, hands outthrust. Brookings screamed once—a scream that died away to a gurgle as fingers of

tremendous strength closed about his flabby neck.

There had been four riflemen on guard. Two of them threw down their guns and fled in panic, amazed and terrified at the failure of their bullets to take effect. Those guards died in their tracks as they ran. The other two rushed upon DuQuesne with weapons clubbed. But steel barrel and wooden stock alike rebounded harmlessly from that pattern of force, fiercely driven knives penetrated it but left no wound, and the utmost strength of the two brawny men could not even shift the position of the weird being's inhumanly powerful fingers upon the throat of their employer. Therefore they stopped their fruitless attempts at a rescue and stood, dumfounded.

"Good work, boys," DuQuesne commended. "You've got nerve—that's why I didn't bump you off. You can keep on guarding this idiot here after I get done teaching him a thing or two. As for you, Brookings," he continued, loosening his grip sufficiently so that his victim could retain consciousness, "I let you try that to show you the real meaning of futility. I told you particularly to remember that this projection has *none* of the disadvantages of a personal appearance, but apparently you didn't have enough brain power to grasp the thought. Now, are you going to work with me the way I want you to or not?"

"Yes, yes—I'll do anything you say," Brookings promised.

"All right, then." DuQuesne resumed his former position in front of the desk. "You are wondering why I didn't finish choking you to death, since you know that I am not at all squeamish about such things. I'll tell you. I didn't kill you because I may be able to use you. I am going to make World Steel the real government of the Earth, and its president will therefore be dictator of the world. I do not want

the job myself because I will be too busy extending and consolidating my authority, and with other things, to bother about the details of governing the planet. As I have said before, you are probably the best manager alive to-day; but when it comes to formulating policies you're a complete bust. I am giving you the job of world dictator under one condition—that you run it *exactly* as I tell you to."

"Ah, a wonderful opportunity, doctor! I assure you that——"

"Just a minute, Brookings! I can read your mind like an open book. You are still thinking that you can slip one over on me. Know now, once and for all, that it can't be done. I am keeping on you continuously automatic devices that are recording every order that you give, every message that you receive or send, and every thought that you think. The first time that you try any more of your funny work on me I will come back here and finish up the job I started a few minutes ago. Play along with me and you can run the Earth as you please, subject only to my direction in broad matters of policy; try to double-cross me and you pass out of the picture. Get me?"

"I understand you thoroughly." Brookings' agile mind flashed over the possibilities of DuQuesne's stupendous plan. His eyes sparkled as he thought of his own place in that plan, and he became his usual blandly alert self. "As world dictator, I would of course be in a higher place than any that World Steel, as at present organized, could possibly offer. Therefore I will be glad to accept your offer, without reservations. Now, if you will go ahead and give me an outline of what you propose. I will admit that I did harbor a few mental reservations at first, but you have convinced me that you actually can deliver the goods."

"That's better. I will show you very

shortly whether I can deliver. I have prepared full plans for the rebuilding of all our stations and Seaton's into my new type of power plant for the erection of a new plant at every strategic point throughout the world, and for interlocking all these stations into one system. Here they are." A bound volume of data and a mass of blue prints materialized in the air and dropped upon the desk. "As soon as I have gone you can call in the chiefs of the engineering staff and put them to work."

"I perceive what seem to me to be obstacles," Brookings remarked, after his practiced eye had run over the salient points of the project and he had leafed over the pile of blue prints. "We have not been able to do anything with Seaton's plants because of their enormous reserves of power, and his number one plant is to be the key station of our new network. Also, there simply are not men enough to do this work. These are slack times, I know, but even if we could get every unemployed man we still would not have enough. And, by the way, what became of Seaton? He apparently has not been around for some time."

"You needn't worry about Seaton's plants—I'll line them up for you myself. As for Seaton, he was chased into the fourth dimension. He hasn't got back yet, and he probably won't; as I will explain to his crowd when I take them over. As for men, we shall have the combined personnel of all the armies and navies of the world. You think that even that force won't be enough, but it will. As you go over those plans in detail, you will see that by the proper use of dirigible forces we shall have plenty of man power."

"How do you intend to subdue the armies and navies of the world?"

"It would take too long to go into detail. Turn on that radio there and

listen, however, and you'll get it all—in fact, being on the inside, you'll be able to do a lot of reading between the lines that no one else will. Also, what I am going to do next will settle the doubt that is still in your mind as to whether I've really got the stuff."

THE PROJECTION vanished, and in a few minutes every radio receiving set throughout the world burst into stentorian voice. DuQuesne was broadcasting simultaneously upon every channel from five meters to five thousand, using a wave of such tremendous power that even two-million-watt stations were smothered at the very bases of their own transmitting towers.

"People of Earth, attention!" the speakers blared. "I am speaking for the World Steel Corporation. From this time on the governments of all nations of the Earth will be advised and guided by the World Steel Corporation. For a long time I have sought some method of doing away with the stupidities of the present national governments. I have studied the possibilities of doing away with war and its attendant horrors. I have considered all feasible methods of correcting your present economic system, under which you have had constantly recurring cycles of boom and panic."

"Most of you have thought for years that something should be done about all these things. You are not only unorganized, however; you are and always have been racially distrustful and hence easily exploited by every self-seeking demagogue who has arisen to proclaim the dawn of a new day. Thus you have been able to do nothing to improve world conditions."

"It was not difficult to solve the problem of the welfare of mankind. It was quite another matter, however, to find a way of enforcing that solution. At last I have found it. I have developed a power sufficiently great to

compel world-wide disarmament and to inaugurate productive employment of all men now bearing arms, as well as all persons now unemployed, at shorter hours and larger wages than any heretofore known. I have also developed means whereby I can trace with absolute certainty the perpetrators of any known crime, past or present; and I have both the power and the will to deal summarily with habitual criminals.

"The revolution which I am accomplishing will harm no one except parasites upon the body politic. National boundaries and customs shall remain as they now are. Governments will be overruled only when and as they impede the progress of civilization. War, however, will not be tolerated. I shall prevent it, not by killing the soldiers who would do the actual fighting, but by putting out of existence every person who attempts to foment strife. Those schemers I shall kill without mercy, long before their plans shall have matured.

"Trade shall be encouraged, and industry. Prosperity shall be world-wide and continuous, because of the high level of employment and remuneration. I do not ask you to believe all this, I am merely telling you. Wait and see—it will come true in less than thirty days.

"I shall now demonstrate my power by rendering the navy of the United States helpless, without taking a single life. I am now poised low over the city of Washington. I invite the Seventieth Bombing Squadron, which I see has already taken to the air, to drop their heaviest bombs upon me. I shall move out over the Potomac, so that the fragments will do no damage, and I shall not retaliate. I could wipe out that squadron without effort, but I have no desire to destroy brave men who are only obeying blindly the dictates of an outworn system."

THE SPACE SHIP, which had extended across the city from Chevy Chase to Anacostia, moved out over the river, followed by the relatively tiny bombers. After a time the entire countryside was shaken by the detonations of the world's heaviest projectiles, but DuQuesne's cold, clear voice went on:

"The bombers have done their best, but they have not even marred the outer plating of my ship. I will now show you what I can do if I should decide to do it. There is an obsolete battleship anchored off the Cape, which was to have been sunk by naval gunfire. I direct a force upon it—it is gone; volatilized almost instantly.

"I am now over Sandy Hook. I am not destroying the coast-defense guns, as I cannot do so without killing men. Therefore I am simply uprooting them and am depositing them gently upon the mud flats of the Mississippi River, at St. Louis, Missouri. Now I am sending out a force to each armed vessel of the United States navy, wheresoever situated upon the face of the globe.

"At such speed as is compatible with the safety of the personnel, I am transporting those vessels through the air toward Salt Lake City, Utah. Tomorrow morning every unit of the American navy will float in Great Salt Lake. If you do not believe that I am doing this, read in your own newspaper to-morrow that I have done it.

"To-morrow I shall treat similarly the navies of Great Britain, France, Italy, Japan, and the other maritime nations. I shall deal then with the naval bases of the world and with the military forces and their fortifications.

"I have already taken steps to abate the nuisance of certain widely known criminals and racketeers who have been conducting, quite openly and flagrantly, a reign of terror for profit. Seven of those men have already died, and ten

more are to die to-night. Your homes shall be safe from the kidnaper; your businesses shall be safe from the extortioner and his skulking aid, the dynamiter.

"In conclusion, I tell you that the often-promised new era is here; not in words, but in actuality. Good-by until to-morrow."

DuQuesne flashed his projection down into Brookings' office. "Well, Brookings, that's the start. You understand now what I am going to do, and you know that I can do it."

"Yes. You undoubtedly have immense power, and you have taken exactly the right course to give us the support of a great number of people who would ordinarily be bitterly opposed to anything we do. But that talk of wiping out gangsters and racketeers sounded funny, coming from you."

"Why should it? We are now beyond that stage. And, while public opinion is not absolutely necessary to our success it is always a potent force. No program of despotism, however benevolent, can expect to be welcomed unanimously; but the course I have outlined will at least divide the opposition."

DuQuesne cut off his forces and sat back at the controls, relaxed, his black eyes staring into infinity. Earth was his, to do with as he wished; and he would soon have it so armed that he could hold it against the universe. Master of Earth! His highest ambition had been attained—or had it? The world, after all, was small—merely a mote in space. Why not be master of the entire Galaxy? There was Norlamin to be considered, of course—

Norlamin!

Norlamin would not like the idea and would have to be pacified.

As soon as he got the Earth straightened out he would have to see what could be done about Norlamin.

X.

"DICK!" Dorothy shrieked, flashing to Seaton's side; and, abandoning his fruitless speculations, he turned to confront two indescribable, yet vaguely recognizable, entities who had floated effortlessly into the control room of the *Skylark*. Large they were, and black—a dull, lusterless black—and each was possessed of four huge, bright lenses which apparently were eyes. "Dick! What are they, anyway?"

"Life, probably; the intelligent, four-dimensional life that Mart fully expected to find here," Seaton answered. "I'll see if I can't send them a thought."

Staring directly into those expressionless lenses the man sent out wave after wave of friendly thought, without result or reaction. He then turned on the power of the mechanical educator and donned a headset, extending another toward one of the weird visitors and indicating as clearly as he could by signs that it was to be placed back of the outlandish eyes. Nothing happened, however, and Seaton snatched off the useless phones.

"Might have known they wouldn't work!" he snorted. "Electricity! Too slow—and those tubes probably won't be hot in less than ten years of this hypertime, besides. Probably wouldn't have been any good, anyway—their minds would of course be four-dimensional, and ours most distinctly are not. There may be some point—or rather, plane—of contact between their minds and ours, but I doubt it. They don't act warlike, though; we'll simply watch them a while and see what they do."

But if, as Seaton had said, the intruders did not seem inimical, neither were they friendly. If any emotion at all affected them, it was apparently nothing more nor less than curiosity. They floated about, gliding here and there, their great eyes now close to this

article, now that; until at last they floated *past* the arenak wall of the spherical space ship and disappeared.

Seaton turned quickly to his wife, ready to minister again to overstrained nerves, but much to his surprise he found Dorothy calm and intensely interested.

"Funny-looking things, weren't they, Dick?" she asked animatedly. "They looked just like highly magnified chess knights with four hands; or like those funny little sea horses they have in the aquarium, only on a larger scale. Were those propellers they had instead of tails natural or artificial—could you tell?"

"Huh? What're you talking about? I didn't see any such details as that!" Seaton exclaimed.

"I couldn't, either, really," Dorothy explained, "until after I found out how to look at them. I don't know whether my method would appeal to a strictly scientific mind or not. I can't understand any of this fourth-dimensional, mathematical stuff of yours and Martin's, anyway, so when I want to see anything out here I just pretend that the fourth dimension isn't there at all. I just look at what you call the three-dimensional surface and it looks all right. When I look at you that way, for instance, you look like my own Dick, instead of like a cubist's four-dimensional nightmare."

"You have hit it, Dorothy." Crane had been visualizing four-dimensional objects as three-dimensional while she was speaking. "That is probably the only way in which we can really perceive hyperthings at all."

"It *does* work, at that!" Seaton exclaimed. "Congratulations, Dot; you've made a contribution to science—but say, what's coming off now? We're going somewhere."

FOR THE *Skylark*, which had been floating freely in space—a motion which the senses of the wanderers had long

since ceased to interpret as a sensation of falling—had been given an acceleration. Only a slight acceleration, barely enough to make the floor of the control room seem "down," but any acceleration at all in such circumstances was to the scientists cause for grave concern.

"Nongravitational, of course, or we couldn't feel it—it'd affect everything about the ship alike. What's the answer, Mart, if any?" Seaton demanded. "Suppose that they've taken hold of us with a tractor ray and are taking us for a ride?"

"It would appear that way. I wonder if the visiplates are still practical?" Crane moved over to number one visiplate and turned it in every direction. Nothing was visible in the abysmal, all-engulfing, almost palpable darkness of the absolute black outside the hull of the vessel.

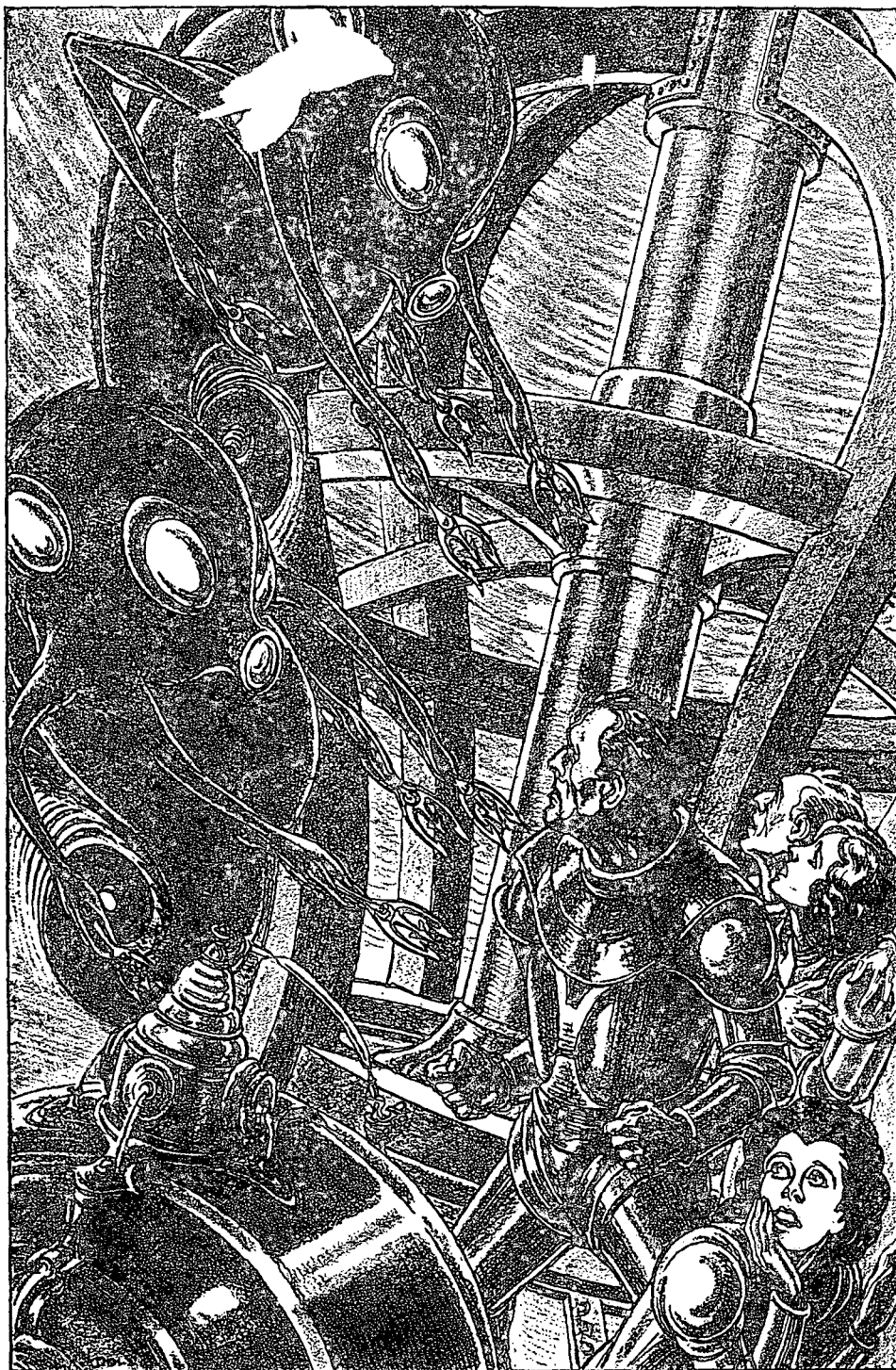
"It wouldn't work, hardly," Seaton commented. "Look at our time here—we must be 'way beyond light. I doubt if we could see anything, even if we had a sixth-order projector—which of course we haven't."

"But how about our light inside here, then?" asked Margaret. "The lamps are burning, and we can see things."

"I don't know, Peg," Seaton replied. "All this stuff is 'way past me. Maybe it's because the lights are traveling with us—no, that's out. Probably, as I intimated before, we aren't seeing things at all—just feeling them, some way or other. That must be it, I think—it's sure that the light-waves from those lamps are almost perfectly stationary, as far as we're concerned."

"Oh, there's something!" Dorothy called. She had remained at the visiplate, staring into the impenetrable darkness. "See, it just flashed on! We're falling toward ground of some kind. It doesn't look like any planet I ever saw before, either—it's perfectly endless and it's perfectly flat."

The others rushed to the plates and



Using Dorothy's method of dimensional reduction, Seaton and the Cranes saw that the hypermen did indeed somewhat resemble overgrown sea horses.

saw, instead of the utter blackness of a moment before, an infinite expanse of level, uncurving hyperland. Though so distant from it that any planetary curvature should have been evident, they could perceive no such curvature. Flat that land was, and sunless, but apparently self-luminous; glowing with a strong, somewhat hazy, violet light. And now they could also see the craft which had been towing them. It was a lozenge-shaped affair, glowing fiercely with the peculiarly livid "light" of the hyperplanet; and was now apparently exerting its maximum tractive effort in a vain attempt to hold the prodigious mass of *Skylark Two* against the seemingly slight force of gravitation.

"Must be some kind of hyperlight that we're seeing by," Seaton cogitated. "Must be sixth or seventh-order velocity, at least, or we'd be——"

"Never mind the light or our seeing things!" Dorothy interrupted. "We are falling, and we shall probably hit hard. Can't you do something about it?"

"Afraid not, Kitten." He grinned at her. "But I'll try it—— Nope, everything's dead. No power, no control, no nothing, and there won't be until we snap back where we belong. But don't worry about a crash. Even if that ground is solid enough to crash us, and I don't think it is, everything out here, including gravity, seems to be so feeble that it won't hurt us any."

Scarcely had he finished speaking when the *Skylark* struck—or, rather, floated gently downward into the ground. For, slight as was the force of gravitation, and partially counteracted as well by the pull of the towing vessel, the arenak globe did not even pause as it encountered the apparently solid rock of the planet's surface. That rock billowed away upon all sides as the *Skylark* sank into it and through it, to come to a halt only after her mass had driven a vertical, smooth-sided well some hundreds of feet in depth.

Even though the Osnonian metal had been rendered much less dense than normal by its extrusion and expansion into the fourth dimension, yet it was still so much denser than the unknown material of the hyperplanet that it sank into that planet's rocky soil as a bullet sinks into thick jelly.

"Well, that's that!" Seaton declared. "Thinness and tenuity, as well as feebleness, seem to be characteristics of this hypermaterial. Now we'll camp here peacefully for a while. Before they succeed in digging us out—if they try it, which they probably will—we'll be gone."

AGAIN, however, the venturesome and impetuous chemist was wrong. Feeble the hypermen were, and tenuous, but their curiosity was whetted even sharper than before. Derricks were rigged, and slings; but even before the task of hoisting the *Skylark* to the surface of the planet was begun, two of the peculiar denizens of the hyperworld were swimming down through the atmosphere of the four-dimensional well at whose bottom the Earth vessel lay. Past the arenak wall of the cruiser they dropped, and into the control room they floated.

"But I do not understand it at all, Dick," Crane had been arguing. "Postulating the existence of a three-dimensional object in four-dimensional space, a four-dimensional being could of course enter it at will, as your fingers entered that tobacco can. But since all objects here are in fact and of necessity four-dimensional, that condition alone should bar any such proceeding. Therefore, since you actually *did* take the contents out of that can without opening it, and since our recent visitors actually *did* enter and leave our vessel at will, I can only conclude that we must still be essentially three-dimensional in nature, even though constrained

temporarily to occupy four-dimensional space."

"Say, Mart, that's a thought! You're still the champion ground-and-lofty thinker of the universe, aren't you? That explains a lot of things I've been worrying myself black in the face about. I think I can explain it, too, by analogy. Imagine a two-dimensional man, one centimeter wide and ten or twelve centimeters long; the typical flatlander of the classical dimensional explanations. There he is, in a plane, happy as a clam and perfectly at home. Then some force takes him by one end and rolls him up into a spiral, or sort of semisolid cylinder, one centimeter long. He won't know what to make of it, but in reality he'll be a two-dimensional man occupying three-dimensional space.

"Now imagine further that we can see him, which of course is a pretty tall order, but necessary since this is a very rough analogy. We wouldn't know what to make of him, either, would we? Doesn't that square up with what we're going through now? We'd think that such a thing was quite a curiosity and want to find out about it, wouldn't we? That, I think, explains the whole thing, both our sensations and the actions of those sea horses—huh! Here they are again. Welcome to our city, strangers!"

But the intruders made no sign of understanding the message. They did not, could not, understand.

The human beings, now using Dorothy's happily discovered method of dimensional reduction, saw that the hypermen did indeed somewhat resemble overgrown sea horses—the hippocampus of Earthly zoölogy—but sea horses each equipped with a writhing, spinning, air-propeller tail and with four long and sinuous arms, terminating in many dexterous and prehensile fingers.

Each of those hands held a grappling trident; a peculiar, four-dimensional hyperforceps whose insulated, inter-

locking teeth were apparently electrodes—conductors of some hyperequivalent of our Earthly electricity. With unmoved, expressionless "faces" the two visitors floated about the control room, while Seaton and Crane sent out wave after wave of friendly thought and made signs of friendship in all the various pantomimic languages at their command.

"Look out, Mart, they're coming this way! I don't want to start anything hostile, but I don't particularly like the looks of those toad-stabbers of theirs, and if they start any funny business with them maybe we'd better wring their fishy little necks!"

But there was to be no neck-wringing—then. Slight of strength the hypermen were, and of but little greater density than the thin air through which they floated so easily; but they had no need of physical strength—then.

Four tridents shot out, and in a monstrously obscure fashion reached *past* clothing, skin, and ribs; seizing upon and holding firmly, but painlessly and gently, the vital nervous centers of the human bodies. Seaton tried to leap to the attack, but even his quickness was of no avail—even before he moved, a wave of intolerable agony surged through his being, ceasing only and completely when he relaxed, relinquishing his pugnacious attempt. Shiro, leaping from the galley with cleaver upraised, was similarly impaled and similarly subdued.

Then a hoisting platform appeared, and Seaton and Margaret were forced to board it. They had no choice; the first tensing of the muscles to resist the will of the hyperman was quelled instantly by a blast of such intolerable torture that no human body could possibly defy it for even the slightest perceptible instant of time.

"Take it easy, Dot—Mart," Seaton spoke rapidly as the hoist started upward. "Do whatever they say—no use

taking much of that stuff—until Peg and I get back. We'll get back, too, believe me! They'll *have* to take these meat hooks out of us sometime, and when they do they'll think a cyclone has broken loose."

XI.

RAGING BUT impotent, Seaton stood motionless beside his friend's wife upon the slowly rising lift; while Crane, Dorothy, and Shiro remained in the control room of the *Skylark*. All were helpless, incapable alike of making a single movement not authorized by their grotesque captors. Feeble the hypermen were, as has been said; but at the first tensing of a human muscle in revolt there shot from the insulated teeth of the grappling hypertrident such a terrific surge of unbearably poignant torture that any thought of resistance was out of the question.

Even Seaton—fighter by instinct though he was, and reckless as he was and desperate at the thought of being separated from his beloved Dorothy—had been able to endure only three such shocks. The unimaginable anguish of the third rebuke, a particularly vicious and long-continued wrenching and wringing of the most delicate nerve centers of his being, had left him limp and quivering. He was still furious, still bitterly humiliated. His spirit was willing, but he was physically unable to drive his fiendishly tortured body to further acts of rebellion.

Thus it was that the improvised elevator of the hypermen carried two docile captives as it went *past*—not *through*—the spherical arenak shell of *Skylark*, *Two* and up the mighty well which the vessel had driven in its downward plunge. The walls of that pit were glassily smooth; or, more accurately, were like slag: as though the peculiarly unsubstantial rock of the hyperplanet had been actually melted by

the force of the cruiser's descent, easy and gradual as the fall had seemed to the senses of the Terrestrials.

It was apparent also that the hypermen were having difficulty in lifting the, to them, tremendous weight of the two human bodies. The platform would go up a few feet, then pause. Up and pause, up and pause; again and again. But at last they reached the top of the well, and, wretched as he was, Seaton had to grin when he perceived that they were being lifted, by a derrick, whose overdriven engine, attended though it was by a veritable corps of mechanics, could lift them only a few feet at a time. Coughing and snorting, it ran slower and slower until, released from the load, it burst again into free motion to build up sufficient momentum to lift them another foot or so.

And all about the rim of that forty-foot well there were being erected other machines. Trusses were rising into the air, immense chains were being forged, and additional motors were being assembled. It was apparent that the *Skylark* was to be raised; and it was equally evident that to the hypermen that raising presented an engineering problem of no small magnitude.

"She'll be right here when we get back, Peg, as far as those jaspers are concerned," Seaton informed his companion. "If they have to slip their clutches to lift the weight of just us two, they'll have one sweet job getting the old *Skylark* back up here. They haven't got the slightest idea of what they're tackling—they can't begin to pile enough of that kind of machinery in this whole part of the country to budge her."

"You speak as though you were quite certain of our returning," Margaret spoke somberly. "I wish that I could feel that way."

"Sure I'm certain of it," Seaton assured her. "I've got it all figured out. Nobody can maintain one hundred

per cent vigilance forever, and soon as I get back into shape, I'll be fast twisting they gave me enough to take advantage of the break when it comes."

"Yes; but suppose it doesn't come?"

"It's bound to come sometime. The only thing that bothers me is that I can't even guess at when we're due to snap back into our own three-dimensional space. Since we couldn't detect any motion in an ether wave, though, I imagine that we'll have lots of time, relatively speaking, to get back here before the *Skylark* leaves. Ah! I wondered if they were going to make us walk to wherever it is they're taking us, but I see we ride—there comes something that must be an airship. Maybe we can make our break now instead of later."

But the hyperman did not relax his vigilance for an instant as the vast, vague bulk of the flier hovered in the air beside their elevator. A port opened, a short gangplank shot out, and under the urge of the punishing trident the two human beings stepped aboard. A silent flurry ensued among the weird crew of the vessel as its huge volume sank downward under the unheard-of mass of the two captives, but no opportunity was afforded for escape—the gripping trident did not relax, and at last the amazed officers succeeded in driving their motors sufficiently to lift the prodigious load into the air of the hyperplanet.

"Take a good, long look around, Peg, so that you can help find our way back," Seaton directed, and pointed out through the peculiarly transparent wall of their conveyance. "See those three peaks over there, the only hills in sight? Our course is about twelve or fifteen degrees off the line of the right-hand two—and there's something that looks like a river down below us. The bend there is just about on line—see anything to mark it by?"

"Well, there's a funny-looking island, kind of heart-shaped, with a reddish-colored spire of rock—see it?"

"Fine—we ought to be able to recognize that. Bend, heart-island, red obelisk on what we'll call the upstream end. Now from here, what? Oh, we're turning—going upstream. Fine business! Now we'll have to notice when and where we leave this river, lake, or whatever it is."

THEY DID NOT, however, leave the course of the water. For hundreds of miles, apparently, it was almost perfectly straight, and for hours the airship of the hypermen bored through the air only a few hundred feet above its gleaming surface. Faster and faster the hypership flew onward, until it became a whistling, yelling projectile, tearing its way at a terrific but constant velocity through the complaining air.

But while that which was beneath them was apparently the fourth dimensional counterpart of an Earthly canal, neither water nor landscape was in any sense familiar. No sun was visible, nor moon, nor the tiniest twinkling star. Where should be the heavens there was merely a void of utter, absolute black, appalling in its uncompromising profundity. Indeed, the Terrestrials would have thought themselves blind were it not for the forbidding, Luciferean vegetation which, self-luminous with a ghastly bluish-violet pseudo-light, extended outward—flat—in every direction to infinity.

"What's the matter with it, Dick?" demanded Margaret, shivering. "It's horrible, awful, unsettling. Surely anything that is actually seen must be capable of description? But this——" Her voice died away.

"Ordinarily, three-dimensionally, yes; but this, no," Seaton assured her. "Remember that our brains and eyes, now really pseudo-fourth-dimensional,

are capable of seeing those things as they actually are; but that our entities—intelligences—whatever you like—are still three-dimensional and can neither comprehend nor describe them. We can grasp them only very roughly by transposing them into our own three-dimensional concepts, and that is a poor subterfuge that fails entirely to convey even an approximate idea. As for that horizon—or lack of it—it simply means that this planet is so big that it looks flat. Maybe it is flat in the fourth dimension—I don't know!"

Both fell silent, staring at the weird terrain over which they were being borne at such an insane pace. Along its right line above that straight water-course sped the airship, a shrieking arrow; and to the right of the observers and to left of them spread, as far as the eye could reach, a flatly unbroken expanse of the ghostly, livid, weirdly self-luminous vegetation of the unknowable hyperworld. And, slinking, leaping, or perchance flying between and among the boles and stalks of the rank forest growth could be glimpsed fleeting monstrous forms of animal life.

Seaton strained his eyes, trying to see them more clearly; but owing to the speed of the ship, the rapidity of the animal's movements, the unsatisfactory illumination, and the extreme difficulty of translating at all rapidly the incomprehensible four-dimensional forms into their three-dimensional equivalents, he could not even approximate either the size or the appearance of the creatures with which he, unarmed and defenseless, might have to deal.

"Can you make any sense out of those animals down there, Peg?" Seaton demanded. "See, there's one just jumped out of the river and seemed to fly into that clump of bamboolike stuff there. Get any details?"

"No. What with the poor light and everything being so awful and so dis-

torted, I can hardly see anything at all. Why—what of them?"

"This of 'em. We're coming back this way, and we may have to come on foot. I'll try to steal a ship, of course, but the chance that we'll be able to get one—or to run it after we do get it—is mighty slim. But assuming that we are afoot, the more we know about what we're apt to go up against the better we'll be able to meet it. Oh, we're slowing down—been wondering what that thing up ahead of us is. It looks like a cross between the Pyramid of Cheops and the old castle of Bingen on the Rhine, but I guess it's a city—it seems to be where we're headed for."

"Does this water actually flow out from the side of that wall, or am I seeing things?" the girl asked.

"It seems to—your eyes are all right, I guess. But why shouldn't it? There's a big archway, you notice—maybe they use it for power or something, and this is simply an outfall——"

"Oh, we're going in!" Margaret exclaimed, her hand flashing out to Seaton's arm.

"Looks like it, but they probably know their stuff." He pressed her hand reassuringly. "Now, Peg, no matter what happens, stick to me as long as you possibly can!"

As Seaton had noticed, the city toward which they were flying resembled somewhat an enormous pyramid, whose component units were themselves mighty buildings, towering one above and behind the other in crenelated majesty to an awe-inspiring height. In the wall of the foundation tier of buildings there yawned an enormous opening, spanned by a noble arch of metaled masonry, and out of this gloriously arched aqueduct there sprang the stream whose course the airship had been following so long. Toward that forbidding opening the hypership planed down, and into it she floated slowly and carefully.

MUCH TO THE surprise of the Terrestrials, however, the great tunnel of the aqueduct was not dark. Walls and arched ceiling alike glowed with the livid, bluish-violet ultra-light which they had come to regard as characteristic of all hyperthings, and through that uncanny glare the airship stole along. Once inside the tunnel its opening vanished—imperceptible, indistinguishable from its four-dimensional, black-and-livid-blue background.

Unending that tunnel stretched before and behind them. Walls and watery surface alike were smooth, featureless, and so uniformly and weirdly luminous that the eye could not fix upon any point firmly enough to determine the rate of motion of the vessel—or even to determine whether it was moving at all. No motion could be perceived or felt and the time-sense had long since failed. Seaton and Margaret may have traveled in that gigantic bore for inches or for miles of distance; for seconds or for weeks of hypertime; they did not then and never did know. But with a slight jar the hypership came to rest at last upon a metallic cradle which had in some fashion appeared beneath her keel. Doors opened and the being holding the tridents, who had not moved a muscle during the, to the Terrestrials, interminable journey, made it plain to them that they were to precede him out of the airship. They did so, quietly and without protest, utterly helpless to move save at the behest of their unhuman captor-guide.

Through a maze of corridors and passages the long way led. Each was featureless and blank, each was lighted by the same eerie, bluish light, each was paved with a material which, although stone-hard to the hypermen, yielded springily, as yields a soft peat bog, under the feet of the massive Terrestrials. Seaton, although now restored to full vigor, held himself rigorously in check. Far from resisting

the controlling impulses of the trident he sought to anticipate those commands.

Indeed, recognizing the possibility that the captor might be aware, through those electrical connections, of his very ideas, he schooled his outward thoughts to complete and unquestioning submission. Yet never had his inner brain been more active, and now the immense mentality given him by the Norlaminians stood him in good stead. For every doorway, every turn, every angle and intersection of that maze of communicating passageways was being engraved indelibly upon his brain, he knew that no matter how long or how involved the way, he could retain his orientation with respect to the buried river up which they had sailed.

And, although quiescent enough and submissive enough to all outward seeming, his inner brain was keyed up to its highest pitch, eager to drive Seaton's gigantic and instantaneously reacting muscles into outbursts of berserk fury at the slightest lapse of the attention of the wielder of the mastering trident.

But there was no such lapse. The intelligence of the hyperman seemed to be concentrated in the glowing tips of the forceps and did not waver for an instant, even when an elevator into which he steered his charges refused to lift the immense weight put upon it.

A silent colloquy ensued, then Seaton and Margaret walked endlessly up a spiral ramp. Climbed, it seemed, for hours, their feet sinking to the ankles into the resilient material of the rock-and-metal floor, while their alert guardian floated effortlessly in the air behind them, propelled and guided by his swiftly revolving tail.

Eventually the ramp leveled off into a corridor. Straight ahead, two aisles—branch half right—branch half left—first turn left—third turn right—second doorway on right. They stopped. The door opened. They stepped into a large, officelike room, thronged with the

peculiar, sea-horselike hypermen of this four-dimensional civilization. Everything was indescribable, incomprehensible, but there seemed to be desks, mechanisms, and tier upon tier of shelf-like receptacles intended for the storage of they knew not what.

Most evident of all, however, were the huge, goggling, staring eyes of the creatures as they pressed in, closer and closer to the helplessly immobile bodies of the man and the woman. Eyes dull, expressionless, and unmoving to Earthly, three-dimensional intelligences; but organs of highly intelligible, flashing language, as well as of keen vision, to their possessors.

Thus it was that the very air of the chamber was full of speech and of signs, but neither Margaret nor Seaton could see or hear them. In turn the Earthman tried, with every resource at his command of voice, thought, and pantomime, to bridge the gap—in vain.

THEN STRANGE, many-lensed instruments were trundled into the room and up to the helpless prisoners. Lenses peered; multicolored rays probed; planimeters, pantographs, and plotting points traced and recorded every bodily part; the while the two sets of intelligences, each to the other so foreign, were at last compelled to acknowledge frustration. Seaton of course knew what caused the impasse and, knowing the fundamental incompatibility of the dimensions involved, had no real hope that communication could be established, even though he knew the hypermen to be of high intelligence and attainment.

The natives, however, had no inkling of the possibility of three-dimensional actualities. Therefore, when it had been made plain to them that they had no point of contact with their visitors—that the massive outlanders were and must remain unresponsive to their every message and signal—they perforce

ascribed that lack of response to a complete lack of intelligence.

The chief of the council, who had been conducting the examination, released the forces of his mechanisms and directed his flashing glance upon the eyes of the Terrestrials' guard, ordering him to remove the specimens away.

"—and see to it that they are watched very carefully," the ordering eye concluded. "The Fellows of Science will be convened and will study them in greater detail than we have been able to do here."

"Yes, sir; as you have said, so shall it be," the guard acknowledged, and by means of the trident he guided his captives through a high-arched exit and into another labyrinth of corridors.

Seaton laughed aloud as he tucked Margaret's hand under his arm and marched along under the urge of the admonishing trident.

"'Nobody 'ome—they ain't got no sense,' says his royal nibs. 'Tyke 'em awye!'" he exclaimed.

"Why so happy all of a sudden, Dick? I can't see very much change in our status."

"You'd be surprised." He grinned. "There's been a lot of change. I've found out that they can't read our thoughts at all, as long as we don't express them in muscular activity. I've been guarding my thoughts and haven't been talking to you much for fear they could get my ideas some way. But now I can tell you that I'm going to start something pretty quick. I've got this trident thing pretty well solved. This bird's taking us to jail now, I think, and when he gets us there his grip will probably slip for an instant. If it does he'll never get it back, and we'll be merrily on our way."

"To jail!" Margaret exclaimed. "But suppose they put us—I hope they put us in the same cell!"

"Don't worry about that. If my hunch is right it won't make a bit of

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difference—I'll have you back before they can get you out of sight. Everything around here is thin almost to the point of being immaterial, you know—you could whip an army of them in purely physical combat, and I could tear this whole joint up by the roots."

"A la Samson? I believe that you could, at that." Margaret smiled.

"Yeah; or rather, you can play you're Paul Bunyan, and I'll be Babe, the big blue ox. We'll show this flock of prop-tailed gilliwimpuses just how we gouged out Lake Superior to make a he-man's soup bowl!"

"You make me feel a lot better, Dick, even if I do remember that Babe was forty-seven ax handles across the horns." Margaret laughed, but sobered quickly. "But here we are—oh, I *do* hope that he leaves me with you!"

XII.

THEY HAD stopped beside a metal grill, in front of which was poised another hyperman, his propeller tail idling slowly. He had thought that he was to be Seaton's jailer, and as he swung the barred gate open he engaged the Terrestrial's escort in optical conversation—a conversation which gave Seaton the mere instant of time for which he had been waiting.

"So these are the visitors from outer space, whose bodies are so much denser than solid metal?" he asked curiously. "Have they given you much trouble?"

"None at all. I touched that one only once, and this one, that you are to keep here, wilted at only the third step of force. The orders are to keep them under control every minute, however. They are stupid, senseless brutes, as is of course to be expected from their mass and general make-up. They have not given a single sign of intelligence of even the lowest order, but their strength is apparently enormous, and they might do a great deal of damage

if allowed to break away from the trident."

"All right; I'll hold him constantly until I am relieved," and the jailer, lowering his own trident, extended a long, tentacular arm toward the grooved and knobbed shaft of the one whose teeth were already imbedded in Seaton's tissues.

Seaton had neither perceived nor sensed anything of this conversation, but he was tense and alert; tight-strung to take advantage of even the slightest slackening of the grip of the grappling fingers of the controller. Thus in the bare instant of the transfer of control from one weird being to the other he acted—instantaneously and highly effectively.

With a twisting leap he whirled about, wrenching himself free from the punishing teeth of the grapple. Lightning hands seized the shaft and swung the weapon in a flashing arc. Then, with all the quickness of his highly trained muscles and with all the power of his brawny right arm, Seaton brought the controller down full upon the grotesque head of the hyperman.

He had given no thought to the material character of weapon or of objective; he had simply wrenched himself free and struck instinctively, lethally, knowing that freedom had to be won then or never. But he was not wielding an Earthly club or an Osnomian bar; nor was the flesh opposing him the solid substance of a human and three-dimensional enemy.

At impact the fiercely driven implement flew into a thousand pieces, but such was the power behind it that each piece continued on, driving its relentless way through the tenuous body substance of the erstwhile guard. That body subsided instantly upon the floor, a shapeless and mangled mass of oozing, dripping flesh. Weaponless now, holding only the shattered butt of the ex-guard's trident, Seaton turned to con-

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front the other guard who, still holding Margaret helpless, was advancing upon him, wide-open trident to the fore.

He hurled the broken stump; then, as the guard nimbly dodged the flying missile, he leaped to the barred door of the cell. He seized it and jerked mightily; and as the anchor bolts of the hinges tore out of the masonry he swung the entire gate in a full-sweeping circle. Through the soft body the interlaced bars tore, cutting it into ghastly, grisly dice, and on, across the hall, tearing into and demolishing the opposite wall.

"All right, Peg, or did he shock you?" Seaton demanded.

"All right, I guess—he didn't have time to do much of anything."

"Fine, let's snap it up, then. Or wait a minute, I'd better get us a couple of shields. We've got to keep them from getting those stingarees into us again—as long as we can keep them away from us we can do about as we please around here, but if they ever get hold of us again it'll be just too bad."

While Seaton was speaking he had broken away and torn out two great plates or doors of solid metal, and, handing one of them to his companion, he went on: "Here, carry this in front of you and we'll go places and do things."

But in that time, short as it was, the alarm had been given, and up the corridor down which they must go was advancing a corps of heavily armed beings. Seaton took one quick step forward, then, realizing the impossibility of forcing his way through such a horde without impalement, he leaped backward to the damaged wall and wrenched out a huge chunk of masonry. Then, while the upper wall and the now unsupported ceiling collapsed upon him, their fragments touching his hard body lightly and bouncing off like so many soft pillows, he hurled that chunk of

material down the hall and into the thickest ranks of the attackers.

Through the close-packed phalanx it tore as would a plunging tank through massed infantry, nor was it alone. Mass after mass of rock was hurled as fast as the Earthman could bend and straighten his mighty back, and the hypermen broke ranks and fled in wild disorder.

For to them Seaton was not a man of flesh and blood, lightly tossing pillows of eiderdown along a corridor, through an assemblage of wraithlike creatures. He was to them a monstrous being, constructed of something harder, denser, and tougher than any imaginable metal. A being driven by engines of unthinkable power, who stood unharmed and untouched while masses of stone, brickwork, and structural steel crashed down upon his bare head. A being who caught those falling masses of granite and concrete and hurled them irresistibly through rank after rank of flesh-and-blood men.

"Let's go, Peg!" Seaton gritted. "The way's clear now, I guess—we'll show those horse-faced hippocampuses that what it takes to do things, we've got!"

THROUGH the revolting, reeking shambles of the corpse-littered corridor they gingerly made their way. Past the scene of the battle, past intersection after intersection they retraced their course, warily and suspiciously at first. But no ambush had been laid—the hypermen were apparently only too glad to let them go in peace—and soon they were hurrying along as fast as Margaret could walk.

They were soon to learn, however, that the denizens of this city of four-dimensional space had not yet given up the chase. Suddenly the yielding floor dropped away beneath their feet and they fell, or, rather, floated, easily and slowly downward. Margaret shrieked

in alarm, but the man remained unmoved and calm.

"Sall right, Peg," he assured her. "We want to go clear down to the bottom of this dump, anyway, and this'll save us the time and trouble of walking down. All right; that is, if we don't sink into the floor so deep when we hit that we won't be able to get ourselves out of it. Better spread out that shield so you'll fall on it—it won't hurt you, and it may help a lot."

So slowly were they falling that they had ample time in which to prepare for the landing; and, since both Seaton and Margaret were thoroughly accustomed to weightless maneuvering in free space, their metal shields were flat beneath them when they struck the lowermost floor of the citadel. Those shields were crushed, broken, warped and twisted as they were forced into the pavement by the force of the falling bodies—as would be the steel doors of a bank vault upon being driven broadside on, deep into a floor of solid concrete.

But they served their purpose; they kept the bodies of the Terrestrials from sinking beyond their depth into the floor of the hyperdungeon. As they struggled to their feet, unhurt, and saw that they were in a large, cavernous room, six searchlightlike projectors came into play, enveloping them in a flood of soft, pinkish-white light.

Seaton stared about him, uncomprehending, until he saw that one of the hypermen, caught accidentally in the beam, shriveled horribly and instantly into a few floating wisps of luminous substance which in a few seconds disappeared entirely.

"Huh! Death rays!" he exclaimed then. "'Sa good thing for us we're essentially three-dimensional yet, or we'd probably never have known what struck us. Now let's see—where's our river? Oh, yes; over this way. Wonder if we'd better take these shields along? Guess not, they're pretty well

shot—we'll pick us up a couple of good ones on the way, and I'll get you a grill like this one as a good club, too."

"But there's no door on that side!" Margaret protested.

"We should fret a lot about that—we'll roll our own as we go along."

His heavy boot crashed against the wall before them, and a section of it fell outward. Two more kicks and they were through, hurrying along passages which Seaton knew led toward the buried river, breaking irresistibly through solid walls whenever the corridor along which they were moving angled away from his chosen direction.

Their progress was not impeded. The hyperbeings were willing—yes, anxious—for their unmanageable prisoners to depart and made no further attempts to bar their path. Thus the river was soon reached.

The airship in which they had been brought to the hypercity was nowhere to be seen, and Seaton did not waste time looking for it. He had been unable to understand the four-dimensional controls even while watching them in operation, and he realized that even if he could find the vessel the chance of capturing it and of escaping in it was slight indeed. Therefore, throwing an arm around his companion, he leaped without ado into the speeding current.

"But, Dick, we'll drown!" Margaret protested. "This stuff must be altogether too thin for us to swim in—we'll sink like rocks!"

"Sure we will, but what of it?" he returned. "How many times have you actually breathed since we left three-dimensional space?"

"Why, thousands of times, I suppose—or, now that you mention it, I don't really know whether I'm breathing at all or not—but we've been gone so long—Oh, I don't believe that I really know *anything*!"

"You aren't breathing at all," he informed her then. "We have been ex-

pending energy, though, in spite of that fact, and the only way I can explain it is that there must be fourth-dimensional oxygen or we would have suffocated long ago. Being three-dimensional, of course we wouldn't have to breathe it in for the cells to get the benefit of it—they can grab it direct. Incidentally, that probably accounts for the fact that I'm hungry as a wolf, but that'll have to wait until we get back into our own space again."

True to Seaton's prediction, they suffered no inconvenience as they strode along upon the metaled pavement of the river's bottom, Seaton still carrying the bent and battered grating with which he had wrought such havoc in the corridor so far above.

Almost at the end of the tunnel, a sharklike creature darted upon them, dreadful jaws agape. With his left arm Seaton threw Margaret behind him, while with his right he swung the four-dimensional grating upon the monster of the deeps. Under the fierce power of the blow the creature became a pulpy mass, drifting inertly away upon the current, and Seaton stared after it ruefully.

"That particular killing was entirely unnecessary, and I'm sorry I did it," he remarked.

"Unnecessary? Why, it was going to bite me!" she cried.

"Yeah, it *thought* it was, but it would have been just like one of our own real sharks trying to bite the chilled-steel prow off of a battleship," he replied. "Here comes another one. I'm going to let him gnaw on my arm, and see how he likes it."

On the monster came with a savage rush, until the dreadful, outthrust snout almost touched the man's bare, extended arm. Then the creature stopped, dead still in mid-rush, touched the arm tentatively, and darted away with a quick flirt of its powerful tail.

"See, Peg, he knows we ain't good to

eat. None of these hyperanimals will bother us—it's only these men with their meat hooks that we have to fight shy of. Here's the jump-off. Better we hit it easylike—I wouldn't wonder if that sandy bottom would be pretty tough going. I think maybe we'd better take to the beach as soon as we can."

FROM THE metaled pavement of the brilliantly lighted aqueduct they stepped out upon the natural sand bottom of the open river. Above them was only the somberly sullen intensity of velvety darkness; a darkness only slightly relieved by the bluely luminous vegetation upon the river's either bank. In spite of their care they sank waist-deep into that sand, and it was only with great difficulty that they fought their way up to the much firmer footing of the nearer shore.

Out upon the margin at last, they found that they could make good time, and they set out downstream at a fast but effortless pace. Mile after mile they traveled, until, suddenly, as though some universal switch had been opened, the ghostly radiance of all the vegetation of the countryside disappeared in an instant, and utter and unimaginable darkness descended as a pall. It was not the ordinary darkness of an Earthly night, nor yet the darkness of even an Earthly dark room; it was indescribably, completely, perfect darkness of the total absence of every ray of light, unknown upon Earth and unknowable to Earthly eyes.

"Dick!" shrieked Margaret. "Where are you?"

"Right here, Peg—take it easy," he advised, and groping fingers touched and clung. "They'll probably light up again. Maybe this is their way of having night. We can't do much, anyway, until it gets light again. We couldn't possibly find the *Skylark* in this darkness; and even if we could feel our way downriver we'd miss the island that

marks our turning-off point. Here, I feel a nice soft rock. I'll sit down with my back against it and you can lie down, with my lap for a pillow, and we'll take us a nap. Wasn't it Porthos, or some other one of Dumas' characters that said, 'He who sleeps, eats'?"

"Dick, you're a perfect peach to take things the way you do." Margaret's voice was broken. "I know what you're thinking of, too. Oh, I *do* hope that nothing has become of them!" For she well knew that, true and loyal friend though Seaton was, yet his every thought was for his beloved Dorothy, presumably still in *Skylark Two*—just as Martin Crane came first with her in everything.

"Sure they're all right, Peg." An instantly suppressed tremor shook his giant frame. "They're figuring on keeping them in the *Lark* until they raise her, I imagine. If I had known as much then as I know now they'd never have got away with any of this stuff—but it can't be helped now. I wish I could do something, because if we don't get back to *Two* pretty quick it seems as though we may snap back into our own three dimensions and land in empty space. Or would we, necessarily? The time coördinates would change, too, of course, and that change might very well make it obligatory for us to be back in our exact original locations in the *Lark* at the instant of transfer, no matter where we happen to be in this hyperspace-hypertime continuum. Too deep for me—I can't figure it. Wish Mart was here, maybe he could see through it."

"You don't wish so half as much as I do!" Margaret exclaimed feelingly.

"Well, anyway, we'll pretend that *Two* can't run off and leave us here. That certainly is a possibility, and it's a cheerful thought to dwell on while we can't do anything else."

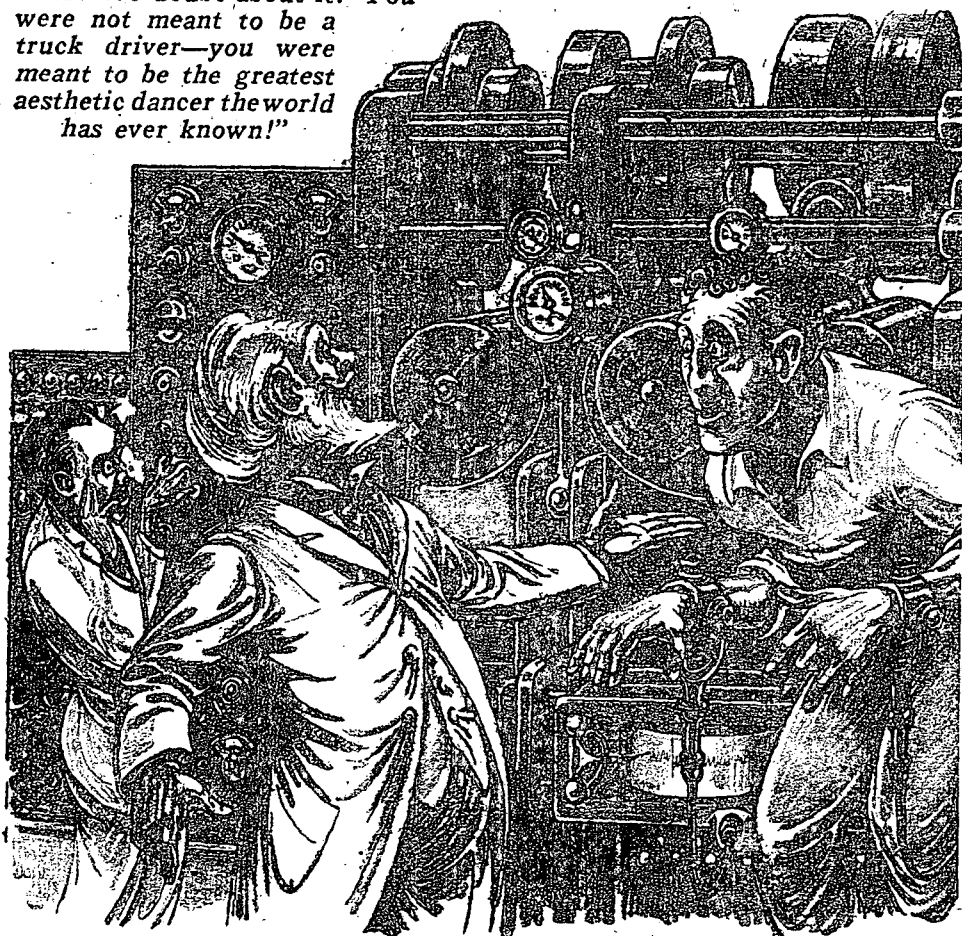
They fell silent. Now and again Margaret dozed, only to start awake at the coughing grunt of some near-by prowling hyperdenizen of that unknown jungle, but Seaton did not sleep. He did not even half believe in his own hypothesis of their automatic return to their space ship; and his vivid imagination insisted upon dwelling lingeringly upon every hideous possibility of their return to three-dimensional space outside their vessel's sheltering walls. And that same imagination continually conjured up visions of what might be happening to Dorothy—to the beloved bride who, since their marriage upon far distant Osnome, had never before been separated from him for so long a time. He had to struggle against an insane urge to do something, anything; even to dash madly about in the absolute blackness of hyperspace in a mad attempt—doomed to certain failure before it was begun—to reach *Skylark Two* before she should vanish from four-dimensional space.

Thus, while Seaton grew more and more tense momentarily, more and ever more desperately frustrate, the abysmally oppressive hypernight wore il-limitably on. Creeping—plodding—d-r-a-g-g-i-n-g endlessly along; extending itself fantastically into the infinite reaches of all eternity.

TO BE CONTINUED.

Due to unavoidable changes in story schedules, Nat Schachner's outstanding "heavy-water" novelette, **THE GREAT THIRST**, has been forced over to the next, the November, issue of *Astounding Stories*.

“Yes! No doubt about it! You were not meant to be a truck driver—you were meant to be the greatest aesthetic dancer the world has ever known!”



The truth about the PSYCHO-TECTOR

by Stanton A. Coblentz

NOW THAT the hand of old age is heavy upon me and the great experiment of the Psycho-tector is an episode of the past, I may freely record the truth regarding that much-disputed creation. Contrary to the belief once common, there was nothing fraudu-

lent about the machine itself; yet, on the other hand, it was not always operated with that high integrity of purpose which had been the goal of my youthful dreams.

As the inventor and exploiter of the Psycho-tector, I, Alexander J. Shot-

grass, Ph. D., am only too fully aware of the facts; yet so well have I woven a veil of secrecy about myself that, until this moment, the brilliant and yet damning reality has never been suspected.

Half a century ago, in the good years between 1940 and 1950, I was a young assistant in one of those psychological laboratories then springing up throughout the country. Ardently devoted to the exploration of the human mind and its intricacies, I was convinced that we had as yet barely scraped the surface of knowledge, and I was constantly studying and experimenting, with a view to enlarging our scientific horizon.

It was not, however, until late in 1946 that the idea of the Psycho-tector leaped into my mind. I had recently been encountering numbers of young men and women who, before entering college, had visited the laboratory in the hope that we could determine their capabilities for the various professions, and I had been forcibly struck by the inability of science to analyze the hidden bends and potentialities of the human mind.

Hence it occurred to me to wonder—suppose we could invent a machine which, with infallible precision, could decide what a person was fitted for? Suppose we could invent a machine that could unerringly pick out the future architect, the chemist, the teacher, the novelist, the statesman? What new hope would open out before struggling mankind! What tragedies would be averted! What false starts and wasted lives would be prevented! What a vast gain in social efficiency and harmony would result, and how much happier every one would be when directed from childhood toward the occupation for which nature had best qualified him!

This idea did not seem to me in any way fantastic. I well knew that the brain is not, as some earlier philosophers had believed, a “blank tablet” at birth;

science had simply demonstrated that each person comes here with a definite inborn stock of inclinations and aptitudes, which often do not manifest themselves for years, but which nevertheless exist from the first, deeply hidden in the subconscious.

Thus, one of us will have a strong musical sense, whereas another will not be able to hold a note; one will have a talent for mathematics, whereas another will hardly be able to compute the simplest sum; one will have a pronounced astronomical gift, whereas another will have no gift except for interior decoration. But how discover these various lacks and capabilities while they still remain subconscious?

THIS was the problem which I set myself to solve, and, from the first, I had valuable hints and clues. Even before my day, science had invented a delicate instrument, the galvanometer, which reacted to the electrical impulses accompanying emotion, and so could register the degree of each human feeling to such an extent that it was used for discovering hidden complexes and was known as a “lie detector.”

Now why could not an even more sensitive instrument be developed from the galvanometer, an instrument capable of registering the most deeply buried subconscious impulses, an instrument that would probe down to the very core of the personality and reveal tastes and aversions that otherwise would not come to light for years, if at all?

The fundamental difficulty, it appeared to me, was serious but not insuperable—to capture and then to magnify an infinitely feeble electrical impulse, so that it could register on an instrument and be read intelligibly. But the science of electricity in my day was already well-advanced, and with the aid of hired technical experts I succeeded, after three years, in fulfilling the necessary conditions and in con-

structing the first crude Psycho-tector—a machine that was really an enormously elaborated development of the galvanometer, and that was capable of recording the minutest psychological impressions by means of the fluttering of a thin gold leaf protected in a globe of glass.

It was my conviction that this machine would report the potentialities of any human being, from infancy to old age. The method of testing was, it is true, a little complicated, but was to be simplified somewhat after practice.

Suppose, for example, that the subject is a small child, and that one wishes to determine whether he has musical inclinations. One attaches an electrical extension of the Psycho-tector to his wrist and plays a piece of music. True, he may not react consciously, but if the gold leaf quivers violently, the indication is that he has reacted subconsciously and is not indifferent to music.

Again, suppose one wishes to know whether he will be religiously inclined. One reproduces as nearly as one can the atmosphere of a church—the solemnity of mood, the organ notes, the vestments, and so forth—and then applies the instrument. If the Psycho-tector fails to register, do not try to make a clergyman of the child. And so on throughout the range of the professions.

As the individual became older, it was easier to get positive reactions; the ideal age, I found, was from ten to fourteen, when the tests could be more simply performed, and the electrical impulses were more pronounced.

Although the invention seemed to have met all requirements, I was scrupulous—exceedingly scrupulous—in those early days. Ten years slipped by while I awaited the outcome of the tests and made no public announcement. Persons whom I had examined as children had to be allowed to mature and follow their careers; those who had

obeyed the suggestions of the Psycho-tector had to be carefully observed to determine whether they had been guided rightly.

More than one hundred individuals in all, gathered from among the children of my friends and colleagues, had been submitted to the tests; more than a hundred had arranged their lives as the Psycho-tector had directed; and by the eleventh year it seemed to me that the results were positive and incontrovertible. Not one who had followed the advice of the machine had found any reason to regret his choice. Not one had not either succeeded in his work or else seemed on the road to success.

Encouraged by these results, I was emboldened, in January, 1960, to report my discovery in an announcement universally acclaimed by scientists and laymen alike. And, at the same time, borrowing from several devoted enthusiasts—my own funds had been exhausted in the course of the experiments—I had several improved Psycho-tectors constructed, removed my home to the metropolis, and opened a suite of offices in which, with the aid of three assistants, I stood ready to prescribe careers to all who came to us with the specified fee.

IT WAS at this point that I made my first grave mistake. To build the Psycho-tectors, to put them into operation, to seek public recognition of their powers, may all have been not only desirable but necessary; but to convert the undertaking into a profit-making enterprise was to put myself strategically in a vulnerable position and to neglect many useful possibilities of the invention.

In the long run, it would have been wiser—and, in the larger sense, more profitable—to have donated the invention to some scientific association if not to the State, so that it could be developed for the benefit of all.

This does not mean, however, that I had done anything actually culpable. Quite the contrary! Certainly, if I desired a private profit, that was no more than I deserved as the fruit of all my devotion and research, particularly since I sought my returns legitimately and always tried to give my clients what they paid to receive.

But, alas, I soon found that honesty is not always the best policy—not, at least, when one is in danger of treading upon such vast and explosive forces as human vanity, pride, and ambition.

During the first few weeks after opening my offices, I was jubilant at the continuous, unexpected rush of business. The difficulty was not to find customers; the difficulty was to prevent the crowds from overflowing our rooms. My assistants and I were kept busy at all hours of the day and night with importunate clients—we literally had not the time to meet the demands upon us.

Being “Psycho-tected” had become a popular craze. “Have you had a Psycho taken yet?” people would ask one another when they paused for a friendly chat on the street. Men and women in all walks of life brought their children and came themselves for examination; the newspapers were full of reports of what we were attempting, and scientific delegations traveled thousands of miles to observe our proceedings.

Little, therefore, could we anticipate the fall toward which we were headed.

It was the very conscientiousness of my methods that was to blame for all the trouble. Unfortunately, though the Psycho-tector was accurate enough from the technical point of view, it could not take account of the personal whims and the egotism of many of my clients. How disillusioning were many of the results!

Here, for example, was a lady of one of those old and respectable families

that lived on their reputation and exuded a sense of aristocratic superiority. I can well remember how she winced, and in what a passion she left the office, upon being told that her little son, the pride of her life, Arlington J. Pendexter, Jr., was qualified to be nothing better than a teamster.

Again, what outraged paternal pride was displayed by the well-to-do puffed-up business man who had expected his son to follow in his footsteps as a silk importer, but was told that his boy would succeed better as a poet.

Then there was the case of the verse maker who heard with indignation that his son would prosper best as a stockbroker. And the young lawyer who wrathfully learned that he had missed his vocation and should have been a crier at a circus side show. And the surgeon who was told that he would have done better as a woodchopper. And the celebrated legislator who was informed that he had the mind of a farm hand. And the farm hand who was advised that he should have been a senator. And the scion of foreign royalty who, according to the Psycho-tector, displayed criminal instincts that should have sent him to jail.

BUT WHY go on throughout the whole vast list, the mere enumeration of which might fill a volume? Need I state that not one in ten of my clients was satisfied; that at least eight in ten felt grossly abused, if not cheated or insulted? For the Psycho-tector, with all its merits, was after all but a machine, and being but a machine, it had no tact; it never hesitated to tell the unblushing truth, no matter how it trampled upon human susceptibilities.

Hence it came to be grossly unpopular. The youth who secretly felt himself to be an embryo Lincoln or Napoleon, only to be told that he was a commonplace dolt with the capacities of a petty tradesman, was not only

wounded in his feelings, but would pour salve upon the injury by blaming the machine. The proud mother who privately expected her son to become president some day, only to be assured that his highest abilities were those of an elevator operator, felt furious, not at her child's limitations but at the Psycho-tector, which she hotly berated.

And thus, unfortunately, thousands of enemies arose, all of whom religiously proclaimed the Psycho-tector to be a humbug and a fraud.

Such reports, no matter how baseless, were bound to have their effect. Within a few weeks, I noticed with surprise that the rush of business was subsiding; within a few weeks more, my assistants and I stared in bewilderment at empty offices.

At first I tried to tell myself that this was a mere freak of chance and that the trade would soon return; and meanwhile, as a special inducement, I lowered my rates—reduced them by half, by two thirds. But all to no avail. A thin trickling of customers did indeed appear, usually to leave disgruntled, and the proceeds were hardly enough to pay office rent.

My position now was fast becoming desperate. Here was I doing business on borrowed money, of which the greater part had still to be repaid; here was I with my entire personal fortune gone and daily falling more deeply into debt. Worse still, having recklessly married some years before, I was the sole support of a wife and three young children, who would not have so much as a roof over their heads if the Psycho-tector failed them.

In such circumstances, I might have been pardoned for lying awake nights to worry.

But as if the loss of my patronage was not sufficient, an even more serious menace began to tower in the background. Some of my former clients, not content with saying everything

malicious they could to blacken my reputation, had visited the authorities with a charge that was to create a profound public stir—that I was extracting money dishonestly. To be precise, I was a common charlatan. I, who had almost ruined myself for the sake of the Psycho-tector, was accused of using it to defraud.

So determined and so influential were some of my foes that their charges rose to the dimensions of a national scandal. Despite everything I could do, the attacks upon me were featured in print throughout the length and breadth of the country, until, as a natural result, newspapers refused to receive my advertisements, old friends declined to recognize me as I passed them on the street, my former scientific colleagues glowered at the mere sight of me, and everywhere I found myself condemned, outlawed, in disgrace.

And meanwhile, as I moodily surveyed my empty offices and debated whether I should not close my doors and abandon the whole unhappy experiment, the news reached my ears that a public investigation was contemplated.

A PUBLIC investigation—and what would be the inevitable result? How could any group of laymen—or even any group of scientists—pass instantaneous judgment on the capacities of a machine that I myself had been able to judge only after years of careful testing?

True, I might bring forth witnesses in my defense, but for every witness I could name, the prosecution could summon a dozen. One issue alone was possible—I would be condemned, plunged into ignominy and shame, perhaps doomed to a long term in the penitentiary. And my wife and three children, those innocent victims of the Psycho-tector—who would provide for them?

Even as these grim reflections tor-

mented me, they came a step nearer realization; I received a visit from a pair of plain-clothes men, who took me into custody on a charge of receiving money under false pretenses. Now my doom seemed preordained. Although bail was promptly arranged, thanks to the generosity of one or two still-loyal friends, I felt like one at whose head the arrows of disaster are pointed; there seemed to be not a possibility of escape.

Even my attorney—who, as the Psycho-tector subsequently showed, was less qualified for the law than for salesmanship—appeared to believe the case hopeless and went so far as to advise me that I would escape with a lighter sentence if I was to plead guilty.

But to such cowardice I would not stoop—sooner would I have let myself be hanged than confess to a crime I had not committed.

Is it any wonder, however, if as the day of the trial approached, I began to rack my brains for some possible loophole of escape, and if I hit at last upon that scheme which, however unjustifiable ethically, was at once the source of my immediate salvation and the foundation of all my later frauds?

The idea that occurred to me was as simple as are many of the inspirations of genius. Let a Psycho-tector be installed in the courtroom, and let me appear to operate it so that the court and jury might decide whether it was fraudulent. Let me, in fact, demonstrate my honesty by making an examination of the judge and jury.

Not, however, by making an honest examination. Far be that from my intention! Nothing, I felt certain, would more pointedly condemn me than the truth about those worthy gentlemen. Instead, departing from the rule of strict probity which I had hitherto followed, I would construe the results so as to tell my clients only what they wanted to hear. I would allow the

Psycho-tector to flatter them unconscionably. After that, they would hardly be in a mood to convict me.

Not without some trepidation, I set about putting this scheme into execution—and with more brilliant results than I could have anticipated. The most difficult thing was to arrange for the installation of the Psycho-tector at court, for the machine was large and bulky; however, the judge, being curious as to its nature, gave permission—and after this all things worked with miraculous smoothness. I might almost say that the court and the jury played directly into my hands; for all, whatever their original opinion of the machine, were anxious to undergo a free Psycho-tectic examination.

I WAS careful to see that they were not disappointed. Never had I arranged an investigation with more elaborate attention; never had I been more cautious about results.

The judge, who was first on the list, was shown by the Psycho-tector to possess a fourth-rate mentality, whose only talents lay in the direction of poker and strong drink; however, I shamelessly misconstrued the readings and informed him that he was revealed to be a prodigy of judicial knowledge and insight, whose proper place was on the United States Supreme Court. From the way he beamed at me on hearing these results, I am sure he did not disagree; and, from that moment forth, there was a twinkle of almost paternal kindness in his eye whenever he gazed in my direction.

With the members of the jury, I was treading on more uncertain ground; for, being unacquainted with their lives, I knew nothing of their preferences. However, I relied in part upon a reading of their faces, in part upon what the Psycho-tector told me, and in part upon chance—and proceeded to endow them with various abilities which no

one had ever suspected them of possessing.

The truth is that, according to the Psycho-tectic reading, they were as dull a lot of morons as one could have found in a twenty-block walk, without special talents of any kind outside of a prodigious capacity for self-esteem; but the very weakness of their mentalities proved to be an advantage, since it made them all the more gullible.

Thus, I endowed one of them with musical genius and was rewarded with a smile of intense gratification—although, as I subsequently learned, his highest capacity was to beat the drum in a jazz band. Another jurymen, whose simpering smirk proved him to be particularly imbecilic, I converted into a potential general, who required only a war to demonstrate his great ability.

A third I found to be a wizard of finance, who would surprise the world if he only had his chance on Wall Street. A fourth I recognized as a novelist more talented than Balzac, though he had never set pen to paper. A fifth, who happened to be a lady of lean and ungainly stride, I described as a dancer of unexampled grace and talent.

And so on throughout the list. Not one of the twelve jurymen, according to my reading of the Psycho-tector, but was an unrecognized genius. And not one of them but threw out his chest on hearing my report and beamed with ill-suppressed pride.

After this, of course, the case was as good as decided. It did not matter how the prosecuting attorney raved and declaimed; it did not matter how many witnesses testified against me. The jurymen, still glowing with pleasure at the Psycho-tectic readings, were unwilling to acknowledge that there could be anything wrong with the machine; and when the time came to render the verdict, it did not take them twenty

minutes to reach a unanimous decision. I was triumphantly vindicated.

Better still! The judge, in commending the verdict, found occasion to reprimand the persons who had brought the "unjustifiable" accusation and went out of his way to compliment me upon my "great invention," which, in his judgment, "should prove an unparalleled boon to humanity."

I HAVE always held the day of my acquittal to mark the turning point in my life—and in the life of the Psycho-tector. From this hour my trade began to revive; for the news of the trial was featured in all papers the following day, and this brought fresh clients to me by the score. Moreover, the judge and twelve jurymen did much valuable advertising among their personal friends and drummed up no end of good Psycho-tectic business. Within a week, my offices were again crowded; before the month was over, I had been forced to hire three new assistants.

Needless to say, I did not repeat my former error. Had I continued to give conscientious reports, it would not have been long before I was again faced with bankruptcy, disgrace, and prison. But I was not that foolish. True, it did cause me an inner pang to have to misuse such a promising invention as the Psycho-tector; but I was now a convert to the serviceable doctrine, "Give the public what it wants!" Never more would I offend any one's sensibilities by stating the plain facts.

My new method was not only simple but effective. Upon receiving a client, I would ask him to fill out an application blank, on which were printed many innocent-seeming questions: Education? Occupation? Clubs? Hobbies? Recreations? Political preferences? and so forth. From the answers to these questions, I would gain a fair clue to the man's disposition and tastes; or, if a child was being tested, I would know

enough of the parent's predilections to be able to analyze the boy or girl in a gratifying manner.

Besides, there were certain rules which I was careful always to follow. If my customer was a brawny but dull-looking young man, I would assure him of his superlative athletic capacities and would invariably be rewarded with a grunt of satisfaction. Or if the applicant was a young lady, no matter how poorly endowed with natural charms and graces, I would find that her proper field was either grand opera, the stage, or the movies—in fact, I discovered more movie stars than ever Hollywood knew in its most golden hour.

Again, I found that I would never give offense to either man or woman by finding him attractive to the opposite sex; while a never-failing recourse, when I was much in doubt, was to acclaim the client as the possessor of great "powers of personal magnetism," which his friends and family did not properly appreciate.

As for children, I would always give them surpassing abilities in fields followed by their parents—the son of the corner groceryman was to be fitted to conduct a great grocery chain; the son of the dabbling amateur painter might be a second Millet; the son of the unsuccessful local candidate for the Assembly was to be qualified for the United States Senate.

By such methods I was able to please everybody, and my clients, delighted with my misrepresentations, would invariably urge their friends to patronize me. So numerous were my customers that I was able to double, to triple, to quadruple, my rates, without any noticeable diminution in my trade.

Within a year, I had paid back all my debts; within two years I had a bank

account mounting into five figures; within three years, I was able to purchase a private yacht. Never before had I realized the lucrative possibilities of the Psycho-tector.

Yet now that I was conducting my business on lines that, candidly speaking, were fraudulent, never a rumor, never an accusation, of fraud was heard. The Psycho-tector was one of the country's well-established institutions.

FOR TEN years I kept my office open—ten years of popularity, double-dealing, and continually mounting profits. Then, at last, possessing a fortune of twenty millions and weary of my long career of duplicity, I decided to put an end to it all.

Doubtless the reader will remember the great fire of '71, which caused such consternation and in which all my Psycho-tectors were reported destroyed along with the secret of the invention.

Now let me make confession—there never was any fire; there was only some smoke, a ruse caused by the deliberate burning of some damp straw; the Psycho-tectors were not burned, but intentionally battered to pieces. And with them was ended the formula for their creation. The machine, I had bitterly decided, was of no earthly use, except as a source of ill-gotten wealth. And I was already rich enough.

Now, in the closing decade of the century, I write these words in my villa near Nice, where I have enjoyed twenty-five years of luxurious ease. I am an old man, and life will soon pass from me; and, before I go, I want the world to know the facts about the Psycho-tector, which, conceived in a spirit of high scientific devotion, failed only because a majority of men would rather be flattered than hear the truth.

COSMIC RHYTHM

*Forces clash to break into a great
drama what might otherwise
have been humdrum existence
—in the future!*

by Harl Vincent

IT MAY or may not have been coincidence that Plattner was talking about rhythms at the time. A queer, rambling sort of discourse, it turned out to be, but attended with great interest by his listeners. Plattner's listeners were always attentive; somehow the words of the crippled, half-blind, and now publicly discredited, old scientist carried a conviction of authority which was strangely lacking in the statements of his supposedly more learned confrères; to practical men, at least.

There were four of them in the *Centaurianic's* navigating cabin, including Plattner. Peterson and Wood, both Americans, were rocket-fuel synthesizing engineers. Quin Landru, a huge bronzed Martian, was the relief pilot. All three were lounging, off watch; all three heard Plattner's every word and later remembered.

The *Centaurianic* was one of the compact etherships built just prior to the end of the twenty-first century when high-speed express service between the planets was the crying need. She was far smaller than the more modern liners and less comfortably appointed. She had accommodations for only thirty passengers. But she was speedy, reliable, and economical of fuel. The owners had recently refused to part with her for twice what she had cost. Similarly, they had kept Plattner on the pay roll.

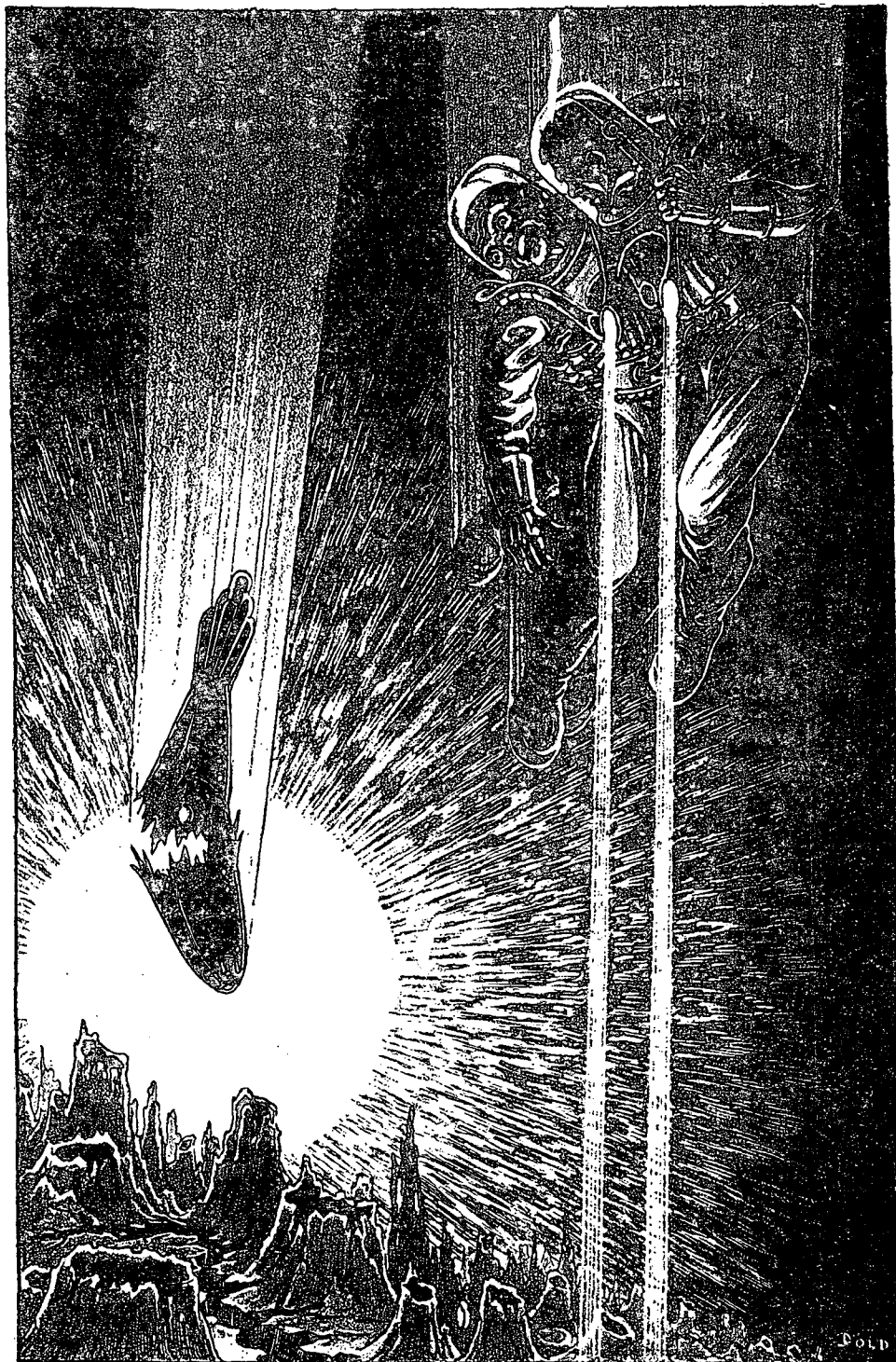
They trusted both ship and man, though both were classed as has-beens.

Now the old scientist was talking about rhythms: "We think and know so little about these natural periodicities, probably because the more familiar rhythms require no thought on our part. In the human body itself there are the rhythms of pulse and respiration, which are involuntary muscular actions. We never think of these unless they give us trouble.

"There are other cycles of bodily change, a daily alteration in the blood's composition, for example. Regular seasonal changes in the human system, the alterations in functioning of the brain and other organs which come with the regular periods of sleep."

Quin Landru, wishing to draw out the speaker, said: "Even plants and flowers have their rhythms."

"Yes, yes; that is what I was driving at. All these rhythms of animal, vegetable, and even mineral kingdoms are interrelated. They are influenced to a great extent by the more majestic rhythms of the universe itself. Take Earth's Moon for example. It had long been suspected, though never positively proved, that her periodic phases have definite effects upon crops and upon human health, especially in certain forms of lunacy. The regular periods of rota-



A second blast from their reaction tubes slowed their fall as the grotesque landscape flung up to meet them.

tion and revolution of the planets themselves have their effects as well."

"And comets, eclipses, volcanic eruptions," commented Wood.

"Precisely!" Plattner's pale eyes, enlarged by their thick lenses, seemed to peer past them all into the depths of infinity. "I have always maintained that there is an order to these things, and a correlation which betokens the existence of a single controlling force. An all-encompassing intelligence, shall we say, or the functioning of an inconceivably enormous organism of which our solar system is but a single atom; our very Galaxy but a molecule.

"Let us start with so simple and familiar an illustration as the tides of Earth's oceans. We know them to be caused by the revolution of the Moon about the mother planet. There is a definite predictable rhythm to their movements. So, too, are there tides in the Sun itself, these being raised by the movements of the planets. Sun spots wax and wane in regular cycles. All of these are rhythms, and all are in some manner related. Why, gentlemen, even out here in space, where almost perfect vacuum exists, there are rhythms which——"

Plattner broke off abruptly, staring. The others moved uneasily in their chairs. Quin Landru pushed aside his glass of Martian *chulco*, looking at it askance. For, as if in confirmation of the old scientist's words, a new and mighty rhythm was felt in the floor plates under their feet, a measured pulsation that was in no way similar to the gentle vibration occasioned by the rocket-tube discharges.

The beats were unequal in intensity, alternating in couplets, with longer intervals between couplets than between beats. Thump, throb. Thump, throb. Thump, throb——

"It's like the beat of a heart!" gasped Peterson. "A human pulse!"

"The pulse of the cosmos," Plattner amended.

IN THE PASSENGER quarters there came instant consternation. The passenger list was small, numbering only eighteen, most of whom were Terrestrians. A few were in their cabins, some were in the promenade gallery, others at the gaming tables in the smoking room. All rushed to the main saloon when the unwonted vibrations became noticeable.

The pasty-faced Venerian, who had not drawn sober breath since the vessel left Earth's atmosphere, let out a maudlin yell: "Alloo! This old ship's a coffin ship. I say all time no good—now you all see, she come apart."

Miss Perkins, the nervous Vermont spinster who was on her first interplanetary voyage, promptly fainted.

A blustery, red-faced individual, who had for days boasted of his ownership of the most valuable portion of the cargo, clamored excitedly for the captain.

The wrinkled old Martian drylander, who had kept most of the time to his cabin, tottered to the small stage and raised his skinny arms to the pagan gods of the desert.

Two young girls, sisters, huddled together on a divan, sobbing.

Tom Hurley, the quiet young New Yorker with the prize fighter's shoulders, raised his voice above the din: "Take it easy now, folks. I've been on a dozen such trips, and nothing has ever happened! This ship is sound and safe, you can bet your lives. I'll go after the captain myself; he'll tell you it's all right."

Comparative order was restored. Hurley ducked into the corridor and quickly returned, not with the captain but with the steward, whose gold braid and brass buttons had the desired calming effect. Few of the passengers noticed the unusual pallor of his cheeks nor the quaver in his voice which belied

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the confidence his words were intended to impart.

"There is nothing at which to be alarmed," he asserted loudly. "I have just spoken to the captain, who tells me that the vessel has drifted into an unusually powerful cosmic-ray stream. It is not an uncommon occurrence and is in no way dangerous. With full energy of our rocket tubes we shall easily make our way out of the stream. So now I ask you all to be seated and remain so until the maneuvering is completed. There will be some lurching of the ship with the increased acceleration; that is all."

A scramble for the deeply cushioned seats followed, since even the greenest of space travelers knows that he cannot remain on his feet with full power blasting from the stern rocket tubes. There were sighs and giggles of relief from the feminine passengers, abashed grunts and guffaws from the men. But through it all was felt and heard the strange new pulsation of the vessel.

Thump, throb. Thump, throb. Endlessly monotonous.

Tom Hurley followed the steward into the corridor, clinging to the guard rail as the stern rocket tubes roared and the ship lunged ahead. The steward's intended reproof died on his lips with the passing of a crisp bank note from the hand of the husky young man to his own.

CAPTAIN MARKS chewed his mustache savagely when old Plattner reported in his cabin.

"Hell, man, it isn't in reason!" he roared. "We *can't* be a half million miles off our course. Do your figures check?"

Plattner stiffened. "Certainly, sir! What I have told you is mathematical fact; the observations and calculations cannot be in error."

"And you say this stream of cosmic rays is fifteen hundred miles in width?

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That we are in the approximate middle of the stream?"

"Correct, sir!"

"Its effective energy on the *Centaurian's* hull?"

"I have measured it, sir. It is greatly in excess of the ship's total rocket power. We cannot pull out."

The captain purpled. "It's a lie!" he bellowed.

Plattner shrugged imperceptibly and limped off toward his own quarters. The captain was shouting into the engine-room optophone for full speed ahead. The answering leap of the vessel wrenched the corridor guard rail out of the old man's fingers and catapulted him aft—directly into the waiting arms of a blurred figure which was planted solidly against a bulkhead.

"Hold fast to me," a reassuring voice said. "I'm Tom Hurley, a passenger. I'll have you in your cabin in a moment."

Hurley was as good as his word. He fought the awful pressure of acceleration with superhuman strength, clinging to the old scientist with one encircling arm while he dragged the double weight of them inch by inch along the guard rail with his free hand. Eventually he deposited Plattner in his own recoil seat, then, exhausted, collapsed in one of the others.

Over the roar of the rocket tubes was heard the pulsing of the ship's bulkheads, floor plates, and hull structure. Thump, throb. Thump, throb——

After a moment Plattner smiled. "Thank you," he said.

"It wasn't anything," returned Hurley, pulling himself erect. "I've been wanting to talk to you."

"You have? Why?"

"About this very thing. We'll not be able to pull out of it, will we?"

"I'm certain we'll not. But how did you know? You speak as if you had rather—let's say, anticipated it."

"I have. That's why I booked passage on the *Centaurianic*."

The old scientist stared. "But—but I don't understand."

"Mostly because of the *Lycurgian*. Remember the liner that was lost a little more than a year ago?"

"Why—why, yes. Hm-m-m! Hadn't thought of that myself, young man. She disappeared somewhere along the outside route."

"Exactly! And we are on the outside route—or we were. The first ship to take it since the *Lycurgian*. My fiancée was aboard the *Lycurgian*, Dr. Plattner."

The old scientist nodded understandingly, avoiding the intensity of Hurley's gaze. "You are a fatalist, I take it."

"No; an optimist. And a scoffer at the accepted theories of the scientists. You see, I have hope of finding Lesa."

Plattner's old eyes twinkled approvingly, then he sobered abruptly. Captain Marks' apoplectic visage flashed into the disk of the optophone and, simultaneously, the roar of the rocket tubes ceased. The alien rhythm which had gripped the *Centaurianic* was the dominating sensation, both of sound and feeling. Its pulsations seemed to be in the very air of the navigating cabin. Thump, throb. Thump, throb—

"I want an immediate report, Dr. Plattner," the captain's voice snarled. "A report on our present position with reference to this cosmic-ray stream of yours and with reference to our target stars."

The disk went blank, and Plattner busied himself nearsightedly with his instruments.

TOM HURLEY breathed easier now that the acceleration pressure was relieved. He moved his long body to a more comfortable position in the spring cushions of the recoil seat, watching Plattner. He had never before seen the old scientist, but had admired him se-

cretly for a long time on account of his refusal to abandon his own theories and submit to the dictates of the Academies of Science of four worlds.

Plattner, Tom reflected, was the one man of them all to depend upon in a situation like this one. Things could not have worked out better—provided they lived to see them through.

Hurley was no scientist, but he credited himself with the possession of average intelligence and possibly somewhat better than average common sense. Besides, he had an unusual gift, one he could not have defined himself. It was a gift of what he called hunches—hunches that amounted to firm convictions; intuition, perhaps.

Ever since the reported loss of the *Lycurgian*, he had tried unsuccessfully to interest the authorities in a search for her. Space was far too vast; it was impossible, they told him. They laughed at his hunches. But Hurley remained convinced that Lesa Derian was living. Some day, somewhere in the universe, he would find her.

He had studied what little had been written regarding the so-called outside route, had learned all he could of astronomy, conned the records of many an obscure space adventurer. He learned that the outside route is used only when the terminal planets of a voyage are in superior conjunction, or on opposite sides of the Sun. As was so in the present case, the *Centaurianic* having left Earth for Venus when those bodies were in opposition.

The solar system, he knew, comprises a number of planets which revolve about the Sun in approximately a common plane. Ordinary space travel is closely held to the ecliptic, which is the plane of Earth's orbit, the orbital planes of all other planets being within a very few degrees of coincidence with the ecliptic.

However, when traveling between planets in opposition to the Sun, it is customary to leave the accustomed

routes of the ecliptic and pass the Sun at a distance of about ten million miles and at a point at right angles to the ecliptic.

This was the "outside route," actually outside the solar system even though lying closer to the Sun than the nearest planet, which is Mercury. The crews of space ships had long entertained many superstitions regarding the outside route. Not without reason, it now would seem.

Hurley was roused from his thoughts by a sharp exclamation from Plattner, who snapped up from the view screen of the radio telescope and yanked off his glasses.

"Jupiter!" gasped the old scientist, rubbing his eyes vigorously. "Look at this, young man, and tell me if you see what I see."

Hurley looked. In a haze of what he thought to be swirling blue vapor he saw a body that looked like Earth's Moon when in its first quarter—a thin crescent of light with the remainder of the sphere but dimly seen. He told Plattner.

The scientist nodded grimly, replacing his spectacles. "It is a wandering planet," he declared. "We are heading directly for the body, and nothing can avert a crash."

"That's where we'll find the *Lycurgian*," vowed Hurley. It was one of his hunches.

Plattner's gaze was commiserative. "If any of us survive," he murmured.

II.

CAPTAIN MARKS received Plattner's report more calmly than Hurley expected, actually apologizing to the old scientist for having questioned his previous findings. "Our only chance," he concluded, "is to retard speed and attempt a landing on the body."

Plattner agreed. "Yes; but have we sufficient fuel?"

The captain grimaced. "My rash at-

tempt to pull out of the ray stream used most of our supply, but I now have the synthesizers hard at work recharging the storage drums."

"How about the passengers?" asked the scientist.

Captain Marks cocked his head, seeing Hurley in his own optophone disk. "The steward tells me your young friend was useful in quieting them at first. I'd like his help now."

"In any way you say," Hurley spoke up.

"Good!" the captain approved. "If necessary—that is, if it appears impossible to land the ship safely—we'll have to bail them out in space suits. The steward knows all about it, Mr. Hurley."

It all sounded very matter-of-fact and not at all alarming. But the drawn look of the captain, and Plattner's solemn squinting through the eyepieces of his instruments, attested to the gravity of the situation. And the monotonous pound of the cosmic pulse was intensifying.

Thump, throb. Thump, throb——

Hurley looked inquiringly at the scientist when the optophone disk dimmed. "If rocket power can't save the ship, how can men in space suits——"

"It's a gamble, of course. But there's a chance that way. The energies of this cosmic-ray stream affect masses of metal, whereas they have little effect on organic matter. The ship is a huge metallic mass, while in a space suit there is only the shoulder-pack apparatus, even the crystallite helmet being unaffected because nonmetallic. The pack-reaction tubes should be effective if used intelligently."

"That's it—if used intelligently." Hurley stood irresolute. "I hate to leave you here——"

"Nonsense! It's all in a day's work with us."

The distant sound of excited voices cut through the alien rhythm of sound and vibration. Hurley started for the

main saloon, taking the roundabout way through a promenade gallery.

HERE, only a wall of crystallite separated him from outer space. He peered into the heavens, seeing that the usual star-studded black velvet was obscured by a pulsating something which made an utter void of all. Nothing was there but blackness. Or was it tinged with a suggestion of indigo? The pulsation was an intangibility like the heat waves in Earth's atmosphere as seen over a hot pavement. It was in synchronism with the rhythm that now was a definite part of all sensation and consciousness.

He was on the dark side of the vessel; he wondered vaguely what it was like on the sunward side. Moving so near to the crystallite wall that the cold of it chilled his marrow, he looked along the curving hull plates toward the blinking lights of the pilot's cabin.

Beyond them—dead ahead—was a tiny crescent of light, weaving and distorting rhythmically as if seen through ripples in a pool of water—the wandering planet, visible already to the naked eye, and growing larger as he watched.

Not much time remained. He darted aft to the main saloon, from which came the sounds of increasing hubbub.

The steward was doing his best with the passengers unaided; all the other officers and the crew being very much occupied elsewhere. The confusion among his charges was threatening a panic.

Nealo, the drunken Venerian, fell upon the steward babbling: “—must go where see, I say. Must talk captain—see—”

Over in a corner the two young girls were blubbing lustily. Porter, the blustery cargo tracer with delusions of ownership, crouched underneath a card table. Miss Perkins was going into another swoon.

“Shut up!” Hurley snapped at the Venerian, who drew himself up with

owlish dignity, hiccupped once, and subsided.

The steward gripped his deliverer's hand. They conferred briefly, after which Hurley raised his voice above the din. Recognizing a dominant personality, the passengers stilled their clamor and gave him the floor.

“I've been forward,” he told them. “I've talked with the officers and know our exact position. The steward has not lied to you; we are approaching an unknown planet, and it seems necessary to make a landing there. But I assure you all, that if every one keeps his or her head, none will come to harm. We'll know shortly whether a landing will be safe or if it will be a matter of bailing out.”

“I couldn't, I couldn't!” shrieked Miss Perkins, miraculously recovering from her swoon.

“Yes, you could; you can. There are detailed instructions in all cabins; all have had time to study them. But you must keep your heads and remember these instructions if the necessity arises. We hope they can land the *Centaurianic*. We——”

Abruptly Captain Marks' voice blared through the emergency loud-speaker: “All hands and passengers take to recoil seats for reverse shock. We are about to retard speed for landing.”

There was a scramble for the seats. Porter, bobbing up from his hiding place, beat the ancient drylander to a seat, crowding him aside roughly. Hurley yanked the man to his feet and knocked him down; then he yanked him erect once more and propelled him across the saloon, slamming him into a seat far removed from the rest.

A sudden shuddering ran through the vessel; then all other sound was blotted out and forgotten. There was a terrific concussion forward; all in the saloon were driven painfully into their recoil seats; the groaning and crackling of wrenched and torn steel plates and gird-

ers; dimming of the lights to less than half brilliance—all happened simultaneously.

Then followed ghastly silence, broken only by the alien rhythm. Thump, throb. Thump, throb—

ONE OF THE two girls whimpered after a moment.

Porter cursed. -

"Take it easy, folks," Hurley was saying.

The loud-speaker squawked: "The forward rocket tubes have blown up. Stand by to bail out in space suits. Through the air locks in pairs, a man to each woman, these couples to lock the belt links of their suits together. We are very near the strange planet. Remember to use the pack-reaction tubes with low power until you become accustomed to their operation."

- There was a second minor explosion, followed by a shrill hiss that told of the escape of the vessel's air into outer space. Pandemonium rose momentarily, but was quickly quelled by Hurley and the steward, who handled the men roughly and used soothing words with the women. They herded their charges to the offside air lock in fair order.

Swift work followed, superhuman efforts on the part of Hurley and the steward being needed. Some of the frightened passengers had difficulty attaching the leaden-soled boots of the uniforms; some were unable to screw their crystallite helmets to the seat properly; some fumbled for the control cables of the pack-reaction tubes without being able to find them; others gasped for air when attired because they had forgotten to switch on the oxygen generators in their packs—these and a dozen more difficulties were straightened. Eventually they had put all of their charges through the air lock in pairs, locked together as the captain had ordered, leaving only Nealo. The Venerian was cold sober now.

"Come on; you're his partner," Hurley said to the steward.

"Impossible! You're a passenger; I'm an officer. It's the law of space."

"I'm appealing the law. Get into that space suit." Hurley had a crystallite helmet over the man's head, thrusting the heavy vacutex suit into his hands.

The steward waved his arms, sputtering under the helmet.

"I'm going after Plattner. Get moving," Hurley insisted.

A sharp snap accompanied the opening of a welded joint beside the air-lock door. With the scream of escaping air, the steward yielded. It was the work of but a moment to get him accoutered and locked to the Venerian.

A quick inspection showed that both men's equipment was in perfect working order and sealed; then Hurley shoved them into the air lock and closed the clamps which drew it to its seat. He pulled the lever which opened the outer door and shot them into space, then sprinted through the corridor toward the forward compartments.

He had not taken ten strides when a violent lurch of the vessel threw him flat. The lights flickered and almost went out, then burned steadily again, but were dimmed to redness. Hurley pushed against the floor plates and shot to the ceiling, bumping his head sharply. He was weightless; the ship's internal gravity apparatus had failed.

It was a ticklish and uncertain business after that. The least touch of a finger against bulkhead, wall, or ceiling, sent him flying. Cut and bruised after a few unsuccessful attempts at locomotion, he managed at last to reach the guard rail. Then he was able to pull himself along the corridor, although he still had to be very careful not to exert too much strength in moving.

And now his breath was coming in painful gasps; the air pressure in the vessel must be getting dangerously low. Dizzily, with black specks whirling be-

fore his eyes, he reached for the frame of Plattner's door. Hazily, he saw the old scientist hanging to the structure of the radio telescope, staring into its view screen.

Hurley shoved gently from the door-frame and floated over to Plattner, grasping the near strut of the apparatus mounting. In the screen he saw careening stretches of desolate waste land, caught fleeting glimpses of rugged crags and scarred plains; but no sign of water or of vegetation.

"A dead world," wheezed the scientist. "Better to die here."

"Rats! We're bailing out."

Plattner shook his head, whereupon Tom Hurley went berserk. He grabbed the scientist and squirmed with him into a bumping, drifting, and altogether incredible, progress toward the air lock amidships. He had no clear recollection of the manner of reaching it or of how he got Plattner into a space suit, much less himself.

Eventually, however, his head cleared, and he drew great gulps of fresh air into his lungs. Amazed, he saw that Plattner stood swaying at his side; that both were fully equipped for the dive into space. The life-giving air was from his own shoulder-pack apparatus. He locked their belt links together.

Seeing the tiny black disk in the crystallite, he remembered the helmet radio. "You all right?" he asked his companion.

Plattner's reply rang hollowly in his ears: "All right, yes; due to your——"

"Good! Now we go out."

They floundered into the air lock. Hurley closed the inner door, but could not seal it. The clamps were on its opposite side, as was the lever for operation of the outer door. He stared blankly at his companion.

"There is a control," said the scientist, "for whoever is last to leave the vessel. We'll go through—now."

He found a concealed button and pressed it. There was a rush of air as

the outer door burst open; the inner door was slammed to its seat by such air pressure as remained in the ship. They were whirled out into darkness.

BETWEEN them and the Sun was the bulk of the *Centaurianic*. Beneath them, and amazingly near, was a teetering, spinning landscape, most of it in ominous blue twilight. Only a distant horizon showed purple light streaks against an indigo sky.

"We are falling fast," breathed Plattner. "We must retard with the pack-reaction tubes. Swing yours upward—so—and press the cable spring release—so——"

Mechanically, Hurley did as he was told. The straps of his pack cut into his shoulders as two flaring white blasts of force drove down into the shadows. Then there was the light of a strangely blue Sun, a Sun that was enormous and whose eerie rays fluttered rhythmically over the purple peaks of the horizon. A rocketing, battered thing dropped swiftly away from them and was lost in the haze. It was the ill-fated *Centaurianic*, falling unretarded.

Stabilizing, the landscape flung itself upward to meet them. A second blast from their reaction tubes slowed their fall considerably. There were other and smaller blasts far below. Always twin flares, always flickering brightly for an instant and then being swallowed up in the indigo haze. Others were negotiating the descent safely.

They swept into the eerie twilight as the Sun dropped from view beyond the somber crags of the horizon. The ground was very near. Pock-marked with craters, cobwebbed with yawning fissures, devoid of life and the where-withal to sustain life, it yet was solid ground. Hurley's spirits rose as he saw new spurts of light near the surface.

"If our passengers can make it, why couldn't those of the *Lycurgian*?" he queried the little disk in his helmet.

He had almost forgotten Plattner. A tug at the short chain which held them together drew his attention to the second bloated space suit. The helmet drooped forward limply. In sudden panic Hurley drew himself close to his companion, shaking the oddly limp fabric of his suit and pressing his own helmet against the scientist's.

Plattner's face was livid, and his eyes popped from their sockets. The man was choking to death. A faint hiss told the story; he had opened the valve in his pack to test the atmosphere of the strange planet; his own air was escaping before reaching his helmet.

Hurley found the valve and closed it; saw with relief that Plattner began taking in the renewed air in great gasps.

Soon he began to sputter words frantically, if weakly: "The air. No air at all, or very little. Do you see? There isn't any—atmosphere—"

The awful truth smote Hurley then. This was a dead planet, indeed. With no air to breathe, any survivors of the *Lycurgian* could have lived here no longer than their shoulder-pack oxygen held out. So, too, would go the survivors of the *Centaurianic*. Twelve hours' supply was all the shoulder-pack apparatus was good for.

Thinking of Lesa, Hurley groaned, the sound booming mockingly in the confines of his helmet. Still Plattner said nothing. Hurley saw that the old man's eyes were bright with understanding, however; it was only that there was nothing to be said.

The *Centaurianic* had long since vanished in the gloom below. Now the indigo was split by a pillar of red that flamed high and subsided. The vessel had crashed, igniting her fuel tanks in one colossal blaze of magnificence, which was snuffed out at once for lack of the oxygen necessary to sustain combustion.

Hurley shook his head dazedly within the helmet. Plattner spoke to him and their reaction tubes spat white flame once

more. Then the only sound was the faint whir of the shoulder-pack apparatus. It held an overtone, that whir, a monotonous rhythm that somehow acted queerly on the brain. Thump, throb. Thump, throb—

Determinedly, Hurley threw off the torpor into which he had been drifting.

III.

THE NEXT TWIN flare of their reaction tubes lighted the ground. It was almost beneath their feet, surging upward. Hurley clamped down on his own cable-spring release, felt the jerk of the belt links caused by the single powerful blast. Plattner had not seen the danger in time to energize his own tube. Then they struck heavily, rolling together down a sharp declivity to a jarring stop.

"A close call!" panted the scientist, when Hurley dragged him to his feet. "But, then, what is a few hours' difference?"

"I haven't given up," the younger man returned.

He noticed that the annoying rhythm of the cosmic-ray stream was now hardly noticeable. Perhaps it was being partially nullified by metallic deposits beneath the barren soil, or drowned out by the increased hum of his shoulder-pack motors. He commented on this to Plattner.

"It is the cold. With so little atmosphere this planet is frigid on the dark side. Our heaters are functioning at full power."

This was not encouraging, but Hurley refused to be cast down. He had one of his hunches. Switching on the light of his portable flash, he looked around. They were in a small hollow and could see but a few feet away. The soil was powdery, volcanic in character.

"Let's get out of here," he said, "and see if we can find any of the others."

They clambered up the slope. Platt-

ner added the beam of his own flash to that of Hurley's. Still they saw nothing of moment. As far as the beams reached there was only the powdery, uneven surface.

"Hi, there!" Hurley called into his helmet microphone. "Any one alive around here?"

"A good idea!" approved the scientist. "Although the helmet radio has a very limited range. Raise your voice to a higher pitch—it is stronger than mine—and warn any with whom you make contact. Warn them about the valve."

"Right!" Hurley had forgotten that. "Hi!" he called again, speaking closer to the tiny black disk. "Hi, survivors of the shipwreck! Tom Hurley calling passengers or crew of the *Centaurianic*!"

"Hear anything?" Plattner asked in an anxious whisper.

"No—yes—shh!" He *had* heard a faint voice. It came in again more strongly.

"Alloo-o-o!" It was Nealo.

"Any of the others with you?" yelled Hurley.

"Yah-h-h! Steward here—knocked dizzy, but he's all right. You see light?"

"Must be our lights you see."

"No-o. Blue light—up high."

Hurley flicked off his flash; his companion followed suit.

"Do not forget the valves," whispered Plattner.

The younger man yelled a warning to Nealo, asking him to relay the message to any his own radio might reach.

"The light—I see it!" The scientist gripped his shoulder straps and swung him around, tilted back his helmet to raise his eyes.

Up there in the gloom Hurley saw a fluttering blue-white light. It shone interruptedly, a beacon that pulsed with a rhythm identical with the one which had brought them here.

"It must be on a mountain peak," he breathed.

Within him was a fierce joy. There

were living creatures on this dead world. Somehow they lived, whoever they were. He would yet find Lesa.

Once more he shouted to Nealo: "Head for the light as soon as the steward recovers. Keep trying the radio and tell any others to do the same. We'll meet there."

Nealo understood. And this time there was a second response in the helmet radio. It was from Quin Landru, who had already learned of the lack of atmosphere and seen the light. He readily agreed to the plan for a meeting at the light's source and promised to try to make contact with all the survivors possible.

Unlocking their belt links, Hurley and the scientist set out for the mysterious beacon with renewed hope urging them on.

THE WAY was tortuous after they left the flatland and began the ascent of a rocky slope that led up to the light. There were wide chasms that they barely missed tumbling into, jagged masses of flinty stone which ripped alarmingly at the vacutex fabric of their space suits, and steep rises where loose pebbles rolled away from beneath their feet, dislodging larger stones which showered down on them from above.

Hurley called into the helmet radio at frequent intervals, warning of the difficulties. He spoke to a few other survivors, among them Miss Perkins, who gurgled as if there was no danger whatever. Shipwreck or no shipwreck, she was having the time of her life. A man was chained to her belt, or had been.

At length the source of the light was made out as a transparent dome of considerable size. The blue-white glare came from within, illuminating its entire surface. Near by, the pulsation Hurley had noted from a distance was not in evidence.

"It's man-made," observed Plattner. "No doubt of that."

"Inhabited, too," Hurley said confidently. "I'll wager they've oxygen apparatus inside and——"

"Look—here are steps, and a circular door in the rock."

They had come up through a smooth-walled defile that ended at the base of the dome. Hurley bounded up the stairs and looked about for a way of entrance. He had found a curious spoked hand-wheel on the metal surface of the door by the time Plattner reached his side.

"They may not welcome us, whoever or whatever is inside," the scientist suggested.

"We have to take that chance." Hurley already had turned the handwheel; the circular door swung inward, revealing a lighted inner chamber. "At least they haven't barred the way."

He discovered the mechanism which closed the outer door and saw that the seating of it was hermetically sealed by an ingenious ring of gasket material which expanded automatically into place. Plattner opened the second door, and they felt the rush of air into the lock.

Hurley opened the valve of his pack apparatus and nothing happened. The air pressure here was the same as that in their suits.

"Guess we're not in luck!" he exulted, starting to unscrew his helmet.

"Wait," said Plattner. "We must close the lock so the others can operate it when they arrive."

That done, they removed their helmets, finding the air in the passage fresh but crisply cold. The silence was complete when they switched off the power in their packs. Before them was a flight of steps cut in solid rock.

Hurley grunted "I'll go first," and started to mount them.

The old scientist limped close behind and came up into the great chamber under the dome just as the younger man

turned to call for him. They stared speechless at what they saw.

It was warmer here; obviously there was heat from some source. But no living being was in the place, only a most astonishing array of mechanisms, some vaguely familiar in design, others the complexity and strangeness of which gave no hint of their use. The source of the blue-white light was a convex disk that was set in the precise center of the metal floor.

Hurley moved to its rim, touched the disk and found its surface extremely cold. His eyes fell on a near-by instrument that could only be a long-range optophone. He was on the floor beside it in an instant, searching for the name plate he knew should be there. It *was* there.

"*Lycurgian!*" he shouted, jerking upright. "I knew it!"

Plattner was peering, fascinated, into a long rectangular box which lay across a pair of latticed supports.

"I say that instrument's from the *Lycurgian*," Hurley repeated.

"But look at this." The scientist seemed not to hear.

Hurley looked. The box was a coffinlike inclosure with a transparent lid that covered a man who seemed lifeless but yet retained the appearance of life. He was naked save for a loin cloth and a narrow sash that was bound around his middle, with one end carried across the breast to his right shoulder, where it terminated at a silvery metal band which hung loosely around his neck.

The man was of stalwart build, white of skin, and had a massive head surmounted by a profusion of snowy hair. His eyebrows, too, were white. The features were aquiline, but remarkably regular, the expression peaceful.

"Dead, Plattner?"

"I think not. Suspended animation."

Mystery here in this dead world, many mysteries! The silence under the great dome was sepulchral. There was no

sign of life. Yet Hurley continued to believe that there was life. His glance strayed to the optophone which had come from the *Lycurgian*.

"Alloo-o!" Nealo's hail came from below. There were scuffings on the stairs as of many feet. Others were with the Venerian.

BETWEEN them, Quin Landru and Nealo carried the steward up into the dome room and stretched him on the floor. He was unconscious. A fourth space-suited figure plodded up the steps, a squat figure, still helmeted. His equipment was entirely different from that of the rest. This man was not from the *Centaurianic*.

"Who's that?" Hurley asked.

Quin Landru shook his head.

No one else spoke.

The stranger lifted a face plate that was set in his opaque helmet and swiftly dropped to one knee beside the steward, so swiftly that none of them saw his features. His gauntleted fingers ran along the sealing seams of the injured man's suit, opening them.

In a moment he had the steward's bulky equipment removed. Deftly he felt over the body, pausing when he lifted the right arm, which was oddly twisted and limp. Then he rose up and took off his helmet.

Hurley gasped. This man was a living double of the one in the casket.

"Arm broke?" faltered Nealo.

The rest of them, for some unaccountable reason, were tongue-tied in the presence of the stranger.

His reply was in words that none of them understood, but the tone inspired confidence. Then, quite as if correcting himself in an unpardonable error, the stranger switched to intelligible if queerly accented and broken English:

"Sorry; I forget. Yes; arm is broken. But man not hurt too much else. He recover, but for why?" The last words,

muttered low, did not make sense—not at the moment.

He had learned the tongue from survivors of the *Lycurgian*. Now Hurley knew definitely that there had been survivors and was filled with the desire to loose a flood of questions. But the stranger had turned on his heel and was discarding his heavy garments as he moved toward a flat slab, saying:

"Bring man here. I straighten arm and medicate."

Everything was done with incredible speed and precision. The arm was set and bound in splints, after which the patient was subjected to the action of a therapeutic radiation machine. The steward sat up and blinked wonderingly.

Hurley, seeing that the stranger had finished, could contain himself no longer. "Tell me," he demanded, drawing the man aside, "do any of those from the *Lycurgian* still live?"

He was startled by the intensity of the gaze which locked with his own and for the first time saw that the white-haired stranger was laboring under a terrific strain, mental or physical. The pupils of his eyes were dilated, and his stare was that of a sleepwalker.

"There come six and twenty from that ship," the stranger replied. "Radva count—me. My own people then three and fifty. Now Radva only one awake."

"You mean all are—dead?"

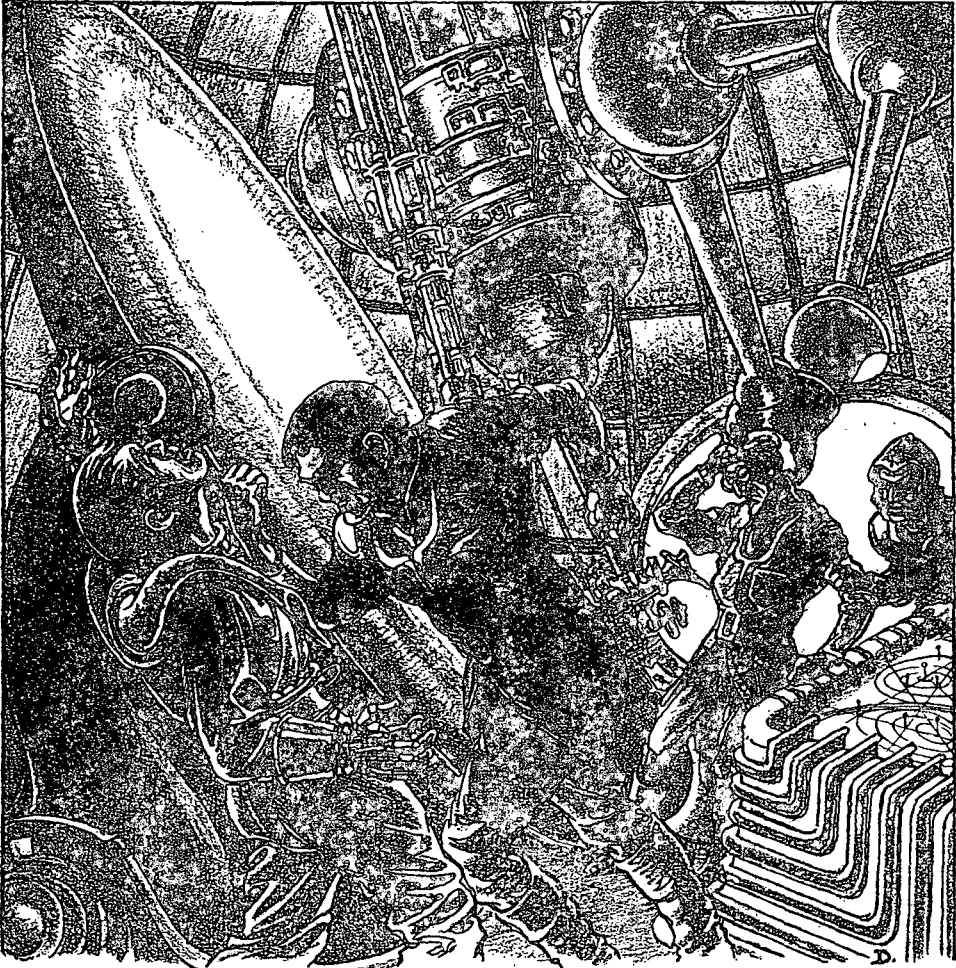
"Not dead. Dead-alive, as my brother." He indicated the casket on the trestles. "Prepared for death to come."

Hurley chose his words with care; there was a gleam in the other's eyes he did not like. "Perhaps we can help you waken them."

"No wake. All this, my world—how you say?—doomed."

"It looks bad, I admit." Even now, Hurley refused to give up hope. "Tell us the worst. We have a great scientist with us who may be able to help."

Plattner was hovering within earshot.



*The captain's head snapped back and he went down
like a sack of meal.*

"No man help. Destruction here much soon." Radva swayed on his feet and his eyelids began to flutter.

For the first time since they had entered the dome room Hurley was conscious of the rhythm. There was no sound of vibrating metal as there had been on board the *Centaurianic*, no definite pulsation of the surrounding air, and yet the rhythm was there in his own consciousness. It was as if the electrochemical functionings of brain cells and the minute electrical currents of his nervous system fluctuated or alternated

in synchronism with the barely perceptible fluttering of Radva's lids. There was no mistaking the rhythm—thump, throb, thump, throb.

Suddenly afraid, Hurley gripped the stranger's arm. "Was there one called Lesa Derian?"

"I forget. Some man, some woman, from other ship. All lie down here." Radva's free arm swung in a gesture that indicated a region beneath the floor. His head wobbled on his shoulders.

Plattner moved closer. "The man's on his last legs," he told Hurley.

It was true. With a long sigh Radva pitched forward on Hurley's chest. They eased him to the floor. Others were coming in through the air lock; the dome room echoed with their voices. As from a great distance Hurley distinguished the blubberings of the reunited sisters, the pagan invocations of the old drylander. But his mind was intent on the barely audible words of Radva:

"Much soon come destruction. Dark world plenty near. Then last crash—rest. Friends—I sleep—prepared—"

Radva's body stiffened and his flesh went cold under Hurley's fingers. His features relaxed and then set in the same expression of peaceful expectation they had observed on the man he called his brother.

IV.

FORTUNATELY for the morale of the refugees, none of the others had noticed. Hurley covered Radva's still form with a hastily gathered pile of the discarded vacutex garments, likewise hiding the casket.

Of those carried by the *Centaurianic*, fourteen passengers and five of the crew were now in the dome room. The general excitement over the finding of a place of safety quite outweighed any expressed fears as to the permanence of the refuge. At Hurley's suggestion, Quin Landru set the optophone in operation and began broadcasting to all who might still be alive outside in space suits, instructing them with reference to the hilltop light and the air-locked entrance to the dome. There was power sufficient to reach any helmet radio that might yet be functioning.

Captain Marks was among the missing, and the steward, on his feet once more, endeavored to take charge of the passengers. Some one found that there were commodious living quarters below the dome-room floor. A scramble for choice rooms ensued.

Taking advantage of the exodus, Hurley and the scientist managed to get Radva's body out of sight and finally into a small room on the floor below. They agreed that nothing should be said to the others regarding the things he had partially revealed to them until they knew more definitely what it was all about.

Radva's pulse and respiration had entirely ceased. A condition resembling rigor mortis, which does not usually set in until a few hours after death, was present. And yet the man did not seem to be a corpse. Puzzled, they locked the metal door of the room, leaving him inside.

"I shall return to the dome room," Plattner decided. "This Radva spoke of a dark world. Evidently he expected a collision with this body. I saw a powerful radio telescope up there; I'll use it to check up on his statements and on other things."

"What do you think?"

"I'll know more later."

"But the dead-alive, as he called them—the rhythm—"

"Patience, young man! Trust me to find the answer."

"Well, I'm going to find those he said were somewhere down here. I'll join you later in the dome room."

"A good idea, very good!" The scientist knew what was uppermost in the younger man's mind. He limped away.

THE FLOOR below was like one in a hotel. There were long halls, from which many doors opened into sleeping rooms, the halls being uniformly illuminated with the same cold light as that emanating from the convex disk in the dome room. What Hurley sought was not to be found here; he searched for a stairway or lift and presently found what was just as good—a narrow ramp which led sharply downward.

The cold light was dimmer here and the temperature much lower than above.

He was soon aware of the sound of faintly humming machinery and judged that he was at a point about one hundred feet below the dome room when he came into a great chamber which housed a number of huge generators. These were flanked by intricate automatic controls and themselves rotated at high speed without any apparent source of prime motive power. Vaguely he thought of subatomic energy or the harnessing of cosmic rays. Radva's compatriots had been great scientists.

He came to a spiral stairs, and his heart pounded when he saw that it led down into a vast chamber that might have been in the catacombs of ancient Rome. In niches of the walls were numberless oblong boxes that could only be the resting places of the dead-alive. He clattered down the steps, setting up a thunder of ghostly echoes.

Under the transparent lid of the first casket he reached was a human body in an advanced state of decomposition. He went sick all over. This was not suspended animation, but death.

The next body reassured him. It was that of a woman of Radva's own kind and in a state of perfect preservation. In the dim light it almost seemed that her bosom heaved rhythmically. There *was* a rhythm, but Hurley immediately knew that it was in his own consciousness—it was *the* rhythm—thump, throb, thump, throb—

He stumbled from niche to niche, suddenly overcome with nameless terror. Most of the bodies were in the condition Radva had described as dead-alive, all were of Radva's kind, probably one in ten were like the first one he had seen—corpses undoubtedly. Every shadow on the walls was a lurking place for things that moved or were about to move. The air of the chamber, draftless and dankly cold, seemed filled with whisperings of things better left unsaid.

Hurley got a grip on himself. He had never been superstitious and did not

intend to begin now. He moved to another part of the room; there was no need to search among Radva's people. At length he found the still body of a Martian; in the next casket was a young Negro with the unmistakable stamp of New York's Harlem on his flashy clothing. Here were the survivors of the *Lycurgian* disaster; here he would find Lesa.

He did find her, and his mind went blank for a moment with the pain of seeing her. She had not changed in any way, excepting that now she was cold and still. Fumbling with stiff fingers after a while, Hurley lifted the lid that covered her. He touched her smooth cheek, finding it like ice, but firm and elastic as living tissue.

Shaking as with ague, he stroked the soft brown hair. This, too, was no different from what it had been. Her hands, slim and white as ever, lay folded over her breasts. There was a rolled sheet like parchment. Ever so gently, Hurley disengaged it from the slim fingers which seemed to relax immediately it was in his hands.

He closed the lid and stumbled blindly to the circular stairs.

QUIN LANDRU was with Plattner in the dome room. His efforts with the optophone had served to guide three more to safety—two members of the crew and one passenger. Nine from the *Centaurianic*, including the captain, were still missing and probably had been lost. The Martian now was assisting the scientist at his labors. Both were glumly silent when Hurley burst in upon them, disheveled, eyes black with emotion.

"You've found her!" exclaimed Plattner, squinting wisely through his thick lenses.

Hurley nodded, unable to speak. He opened the scroll, steadying himself against the pedestal of the radio telescope. Quin Landru opened his mouth to speak, but closed it with a click of

his teeth at a frown of warning from the scientist.

When he had finished reading, Hurley made a curious noise in his throat and lurched away, pacing the floor nervously for several minutes. Then he stopped at Plattner's side and spoke in flat, expressionless tones:

"It isn't true. It can't be true. There must be a mistake."

"The message, you mean?" The scientist's voice was fraught with compassion.

"Some of it. It is a message from the—from Lesa. Mostly personal." Hurley tucked the scroll away in an inner pocket, handling it as if it was a most fragile treasure. "She had a feeling I'd find her some time. Telepathy, perhaps. She——"

He broke off and resumed his nervous pacing. Again Quin Landru made as if to speak.

"Don't," whispered Plattner. "Let him get it out of his system."

"It's all the impossible rest of it." Hurley stopped before them and planted his feet wide apart. There was more of sanity in his gaze now. "This sleep that is like death, and what the Dovardi told her was to come."

"Dovardi?" The Martian had contrived to put in a word.

"Yes; the natives of this world. They called the body Dovar; it was once the outermost planet of a solar system many light-years distant from our own. It cooled off and——"

"And lost its atmosphere," Plattner supplied.

"You know!" marveled Hurley. He was himself once more.

"Some of it I know. But go on."

"The inhabitants burrowed into the ground and provided themselves with synthetic food, artificial atmosphere, comforts. There was water in underground streams and lakes, so they got along for a generation or more. Then the water began to give out, and the

majority of them died off. Dovar met with a new and inexplicable force which drove it from its orbit and flung it into space.

"Soon came the rhythm. After a time this drove some of them insane, others to take their own lives. The few who remained built this dome over their quarters, partially insulating them from the rhythm. Soon afterward the *Lycurgian* was wrecked here in much the same manner as was the *Centaurianic*."

"Ah-h!" breathed Plattner, as if some theory of his own had been confirmed by Hurley's words. "And the sleep of death—what has your message to say of that?"

"Apparently it is of rather recent origin. Lesa says Radva told them it was his own blessing, a sort of permanent hypnotic state which was to save them all from the mental and physical horrors of the disaster to come—the collision with another body which he spoke of to us before he caved in." Hurley's voice rose. "Dr. Plattner, it isn't reasonable. There must be a way of reviving her—the others, too, of course. And the mathematical probabilities of a collision out here in space are so remote——"

"In this case there is mathematical certainty."

"You've proved it?"

"I have. Look at this." The scientist pushed back a litter of papers from a chart on the table before him. The papers were covered with figures in his own painstaking chirography.

ON THE CHART was a jumble of curved lines and ellipses, these being dotted with tiny pins which had varicolored beads as heads. It was like a navigating chart of the heavens, but obviously the workmanship of the Dovardi. Plattner indicated a painted-in circle past which swept a blue line the flat curve of which extended across the entire chart.

"This is Sirius," he declared. "Originally Dovar's sun. The blue curve is Dovar's course since leaving its solar system—really a cosmic-ray stream. This is Dovar's present position."

He touched a tiny gold bead with his finger tip. Hurley saw that it was nearly a representation of their own solar system, a series of narrow, elongated ellipses surrounding a central dot of yellow. Many puncturings of the chart showed where the pins had been shifted often to follow the motions of the various bodies.

The blue curve was intersected by a red one which extended from the opposite corner of the chart. On the red curve was a black-headed pin which was near to the point of intersection and less than an inch from the gold bead.

Plattner continued solemnly, pointing to the black bead: "This is the dark body Radva spoke of. I have found it with the radio telescope, which checks Radva exactly."

"The two will collide—when?" Hurley believed now.

"In less than twenty hours of terrestrial time."

Quin Landru grunted: "Radva knew this, yet went out in a space suit when he saw the *Centaurianic* crash, hoping to save lives."

"Instinct drove him." Plattner hesitated. "Er—he saw the incongruity of it when he fixed up the steward. Remember his words, 'for why?'"

Suddenly Hurley knew the scientist was holding something from them. There was a queer guilty look in the eyes behind the thick lenses. A silvery metal band hung loosely around his neck, one like those worn by Radva and the man in the casket who resembled him.

"You old rascal," Hurley began. "You're keeping——"

He was interrupted by the clang of a metal door. There was the sound of heavy footsteps on the stairs from the air lock. A man in a space suit, hove

into view, wrenching off his helmet and flinging it on the floor. The man cursed vividly.

It was Captain Marks, whom they had thought lost with the vessel.

"Ha!" he roared. "Glad you three are alive. Now we've a good chance of escaping this damned place."

Plattner said nothing.

Quin Landru's eyes widened. "Escape! How come?"

"Do you forget the auxiliary rocket ship carried by all liners?" The captain glowered at Plattner, who turned his head. "Hell, I'd have been off this blasted world long ago if it wasn't a three-man job to navigate the thing. It's undamaged, I tell you, the one on the *Centaurianic*—we four can get away."

"There are others here," Hurley commented dryly, remembering the small size of the scouting auxiliary ships. He had never liked the captain; now his dislike intensified. "Isn't it the duty of a ship's master to stay by his command?"

"Huh—old-fashioned sentiment!" exclaimed the captain. "Listen; you, Plattner, will navigate. Quin Landru can relieve me at the controls. Hurley, you could learn the workings of the fuel synthesizers in a few minutes. We'll get——"

The scientist interrupted mildly: "You're crazy. The power of the *Centaurianic* itself wasn't enough to pull out of the ray stream. The puny rocket tubes of your auxiliary wouldn't——"

Captain Marks yelled like a madman. He struck out with the flat of his hand and knocked Plattner from his stool.

It was too much for the young American. He whirled the captain around and slapped his purpled cheeks as one slaps a child. "Get that space suit off," he yelled, "and take it out on me. Not on a helpless old man."

But the captain had other ideas. He was a powerful man, and the gauntlets

at the ends of his vacutex sleeves were of jointed steel construction, heavy and harder than bare knuckles. Besides, the suit itself, though bulky, was a protection from body blows. He doubled a gauntlet into a fist and swung.

Hurley went down with blood spurting from his nostrils, but was up again like a cat, his arms working like pistons. Heedless of the rain of steel-clad fists on his body and head, he drove in short-arm punches to his adversary's neck and head with such rapidity that Quin Landru, who was cheering excitedly, could not follow them.

The captain rocked on his heels. Then Hurley brought up one that started from the floor and ended with a sound like a cracking board on his opponent's chin. The captain's head snapped back and he went down like a sack of meal.

"Good work!" approved the Martian. "He'll be out for a long time."

The blood pounded in Hurley's temples. Curiously, he experienced no elation. Instead, his own faculties seemed to be slipping away from him. Plattner's form was blurred and indistinct in his vision. The rhythm at his temples was identical with the rhythm of the cosmic ray stream: Thump, throb—thump, throb—

His knees gave way beneath him. As consciousness left, he knew why those in the sleeping quarters below had remained out of sight once they found the bunks. It was the overpowering need of rest after the excitement and uncertainty and the insistent pounding of the rhythm.

Vaguely he wondered if he was ever to awaken, then knew no more.

V.

MISS PERKINS painfully blinked herself awake in a strange bed. Her head throbbed unmercifully. Groaning, she forced her eyes to remain open, wonderingly taking note of her surround-

ings. The room was windowless, with walls of gleaming metal. Its furnishings, also of metal, were few in number and of outlandish design. Not at all like the antiques that cluttered her own room back in Vermont.

She remembered then and closed her eyes once more, living over in her mind the events preceding the irresistible desire for sleep which had come to her many hours before. Somehow she knew that many hours had passed since Alvin Porter left her at the door of this very room.

Alvin! She pronounced the name aloud. It had taken a shipwreck in space to bring them together; now no power of the universe could part them. She blessed the fate which had decreed that they be chained together in space suits. Her headache was leaving; she became aware of the pulsation which was the same as that which had come to the doomed *Centaurianic* before the accident—it was in the very air she breathed. Something funny about that!

Raising her aching frame, she saw that she was still fully dressed. She snorted her disgust with herself. She had been too tired to disrobe—the first time in her life she had ever done such a thing.

But then it was the first time she had been so thrilled. To be shipwrecked in space was a mere incident compared to the coming into her life of a man like Alvin. Miss Perkins was no fool; she knew that Porter was, or had been, a lying braggart. She knew, too, that it was she who had made the advances.

But Porter had responded; that was the big thrill. She was not to die a spinster after all. Moreover, the man had evidenced a much-subdued nature after an hour or so of her exhortation. He would be a worthy mate; she'd see to that.

She began to wonder if he was awake. Primping up as best she could in the circumstances, she went out into the

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deserted hall. Porter's room, she recalled, was next to her own. She wondered if she dared to knock on his door. No one was in sight; no one would know. She opened the door and went in without knocking.

Her breath came fast. She appreciated the audacity of her act. Porter lay curled on his pillow, still asleep.

The womanly soul of Miss Perkins went out to the man who had brought promise to her at this late date. She tiptoed to his bed, reaching out a hand to stroke his forehead. The clamminess of his skin appalled her; in sudden terror she shook him.

Then she screamed and ran into the hall. Alvin Porter was dead; the body she had touched was rigid and cold, without movement. Her shrieks echoed through the place repeatedly, then ceased on a wailing, shuddering note as she collapsed on the floor.

QUIN LANDRU jerked himself upright in the armchair beside Hurley's bed. Sheepishly—for he had not intended to fall asleep—he recalled the dream of hearing feminine shrieks. Or had it been a dream? He consulted his Martian chronometer, saw with a start that he had slept the equivalent of eighteen terrestrial hours. The time Plattner had set was almost upon them.

At first he thought Hurley was not breathing at all and a shiver ran through him. But the doughty American had not succumbed to the sleeping death after all. Landru's proddings brought him reluctantly to consciousness. He grunted and opened an eye, then sat up.

"How'd I get here?" he demanded sleepily.

"I carried you down from above. You passed out yourself after putting the captain to sleep."

Hurley grinned, then felt his swollen chin and nose ruefully. "Oh, yes! And how's the captain?"

"Not too well, I hope. I put him in

the room next to this and locked him in."

"Good! How long ago was this?" Hurley had a feeling that considerable time had passed. And he realized now that the infernal rhythm was pounding more strongly than ever within him. He was jerky and nervous as with an alcoholic hangover.

"Nearly eighteen of your hours," the Martian returned soberly.

"What!" yelled Hurley, leaping to his feet. "Then we'll soon know—Come on up to see Plattner, if he's still there."

"He'll be there, if I know Plattner."

Quin Landru frowned and made as if to say more, but the American was already outside the door.

They found Miss Perkins in the hall, in a shuddering heap. A moan escaped her when Hurley touched her shoulder.

"What is it?" he inquired gently.

"He's dead." The woman raised a face in which there was emotion that Hurley would never have suspected she could show. Miss Perkins had once been, could still be, beautiful.

"Who's dead?"

"Alvin—in there."

Quin Landru went in through the open door while Hurley raised Miss Perkins to her feet. He came back, nodding a message.

"It's not death, Miss Perkins," Hurley told her. "Listen to me. It's a sort of suspended animation that is caused—well, I'm not sure what causes it."

The woman was not listening, but continued to moan. Hurley shook her and repeated what he had said. She was still unimpressed, seeming to be in a daze.

"Better get her to her room," the Martian suggested.

This brought objection. "No, please; not there. I couldn't stand it—being next to him. I'll sit in the library."

The two men had not known there was a library, but found it after further

questioning of Miss Perkins. Willingly enough, and now in a calmer state of mind, she let them take her there, where they saw to it she was comfortably ensconced in an ottomanlike seat.

She smiled wanly up at them when they left her.

In the hall, Hurley muttered: "Peculiar thing, this sleeping death. You sure her man was in it, Landru?"

"Positive! It was Porter, and he's just like Radva was."

They looked in on the captain and found him another victim of the strange state.

"It isn't reasonable," argued Hurley. "Why should the thing take some and not all of us? I wonder how many more there are."

Another room revealed two more victims—the young girls who had been so frightened. Still hugged close in each other's arms, they were cold and still. Yet they were not corpses.

"It's certain the state was not induced by Radva, as he evidently let it be thought. It's caused by the rhythm, I think."

Quin Landru agreed immediately. "Just what I've been thinking."

"By this time Plattner should know all about it." Hurley strode to the narrow stair that led up to the dome room.

The Martian followed, then fell back at Hurley's startled cry:

"It's closed off! There's a solid wall of metal up here."

Quin Landru bounded up to the top step, seeing that the American had spoken the truth. The opening to the dome-room floor was tightly sealed, and no amount of battering by the two men was sufficient to move the barrier. The Martian wrenched away a section of hand rail from the wall and banged at the metal closure. It resounded, not hollowly, but like steel armor plate of great thickness. There was nothing they could do but return to the floor of the living quarters.

A SEARCH of the rooms convinced them that they were the only ones who had escaped the sleeping death, they and Miss Perkins, if she still retained consciousness. Of course there was the possibility that up there on the dome-room floor Plattner yet labored at the work he so loved. Why any of them had escaped was a mystery; the cosmic rhythm seemed momentarily to increase in vigor.

They found Miss Perkins where they had left her. She had not succumbed and was now in a mood of complete resignation. Moved to sympathy, Hurley sat down and told her all that he knew regarding the situation.

When he had finished she sat mute for a long time, then said with the utmost conviction:

"It can't be. I can't believe it. There must be a way out. I feel it."

Something like admiration came to the young Terrestrial. "You're a girl after my own heart," he told Miss Perkins.

Her quick flush of pleasure was proof he had not been wrong about the beauty he suspected was just within her reach.

Quin Landru, who had been prowling around this library of another race, suddenly called out to them: "Look at this, you two! Come over here!"

They joined him at a bulky pedestal which supported a circular frame that was faced with glistening opalescent material.

"What is it?" asked Miss Perkins.

For answer, Quin Landru depressed a lever and the opalescent face lighted up like an optophone disk. In its glow was discernible the shifting panorama of a rugged and desolate landscape—the surface of Dovar. The landscape broadened swiftly until the horizon was visible, then an expanse of almost ebony sky.

Hanging like a great observation balloon above the horizon was a dark sphere, looming ten times as large as the

Moon appears on Earth. The view flashed off and a blurred orb faded in—a shining red orb that quickly came into sharp focus. Mars! Quin Landru's gulp was distinctly audible.

Again the view changed, and again. In rapid succession the planets of the solar system were each brought into focus.

"Good old Plattner!" cried Hurley. "He's up there in the dome room hard at work. Checking the positions of the planets. This thing's a secondary screen of the radio telescope. He doesn't even know it's here."

The scene changed once more to one near at hand—the scarred land of the Dovardi. The dark moon was now noticeably larger, closer to the horizon. The scene was in twilight, near Dovar's daylight side.

"It's that other world," breathed the Martian. "Sweeping in to keep the tryst."

Miss Perkins spoke up with decision: "I'm going to be with Alvin." She went silently out of the library.

"A great little woman," Hurley heard himself saying.

Fascinated as he was by the view in the screen, his own voice seemed a thing detached from him. Even his thoughts were not his own; there was a nightmarish resurgence of unimportant themes repeating endlessly and with monotonous regularity, with the precise cadence of the cosmic rhythm. The dark moon was now an enormous thing, filling the scope of vision above Dovar's horizon.

Quin Landru catfooted his way out of the library, not thinking to explain. Hurley did not notice or, if he did, paid no attention. In a few minutes the Martian was back.

"The barrier's still there," he said. "We're still cut off from above."

Hurley made no reply. Curious surface markings were now visible on the dark world that was so near to Dovar,

wavering streaks which banded the body from pole to pole, forming concentric rings. It was as if the approaching planet was spinning swiftly like a child's top. And there was a rhythm to the wavering of the bands, a pulsation that synchronized with the rhythm of Hurley's numbed being.

Quin Landru consulted his chronometer. "Thirteen more of your minutes," he told his companion, then slumped over the view screen.

Hurley's fingers wandered aimlessly over the Martian's bare arm. After a few seconds a new refrain was thumping through his tortured consciousness—he's cold—he's cold——

HURLEY'S next conscious act was that of throwing back the lid of Lesa's casket. He had no memory of coming to the vaulted chamber of the dead-alive, nor did it seem odd that he was here. Lesa was not dead; she was sleeping. Some unintelligible command was hammering at the inner recesses of his brain; he could not interpret it. He knew only that Lesa was in his arms; that he must carry her with him to a place he would know when he reached it.

Another blank period followed, after which he found himself staggering through the chamber of the power generators with a burden across his shoulders. The burden was not onerous; it was Lesa.

He came to the long ramp, finding it exceedingly steep. Willing strength into his muscles and sanity to his mind, he struggled up the slope. He had lost all sense of time and of distance. Hours seemed to have passed; the ramp was miles in length. How many minutes was it the Martian had said—thirteen? Thir-teen—— Thir-teen—— But that was long ago.

He paused, putting down his precious burden. *This* was the place. A great peace infolded him. He sat cross-legged in the confines of the inclosed ramp and

lifted Lesa's head to his kness, cradling it in the hollow of his arms.

Then came a convulsion as of the disrupting of the universe, a cataclysmic upheaval, a groaning of Dovar's twisted vitals. Holding fast to her who was dearer to him than life itself, Hurley shot with the speed of a projectile into abysmal darkness.

VI.

PLATTNER lived a lifetime in the fleeting instant immediately preceding the impact. He had few regrets, many satisfactions. He smiled as he fingered the silvery band around his neck. Radva had known a thing or two, at that. The metal of the ring warded off the effects of the rhythm for a long period of time. That was why Radva and his brother had been the last of the Dovardi to succumb. They had work to do, even as Plattner had.

He was glad he had found the barrier to the lower regions and closed it. His friends down there might stand a better chance of surviving if this particular portion of Dovar remained in one piece after the concussion. In fact, if he had not erred in his computations, they would have a very good chance. Here in the dome room, it would be different. Even with his calculations correct to the last decimal, the dome itself was bound to collapse.

The dark world blotted out all else in the view screen. It was upon them. Its mass, Plattner had learned, was much less than would have been suspected from its size. He had not completed his spectroscopic determinations, but believed the body to be largely gaseous. He knew it would plunge to the surface of Dovar at a point eighty-three degrees, fourteen minutes, and nine seconds removed from the position of the great dome. He had figured the resultant forces to a nicety.

But, of course, he had no means of determining the distribution of stresses

throughout the unknown structure of Dovar. There was no way of knowing to what point the materials of its core might be stressed without yielding. He did know accurately the angle at which the two cosmic-ray streams crossed; he knew the velocities and masses of the bodies about to meet. He had determined the precise amount of energy represented by the clash to come and knew the direction in space to be taken by the expended energy.

The heat generated would be terrific. He knew where and how it was to be dissipated. If things worked out in accordance with the mathematics of celestial mechanics, a great surprise awaited those scientists of the four inhabited planets of the solar system. In death, he would have the laugh at last on those who had ridiculed his theories.

The purpose behind it all, the wherefore of the cosmic rhythm and the directing of the two ray streams—ah, that was another matter! Thinking of this phase, Plattner grinned contentedly. He knew he was closer to the truth than he had ever been.

Then blackness swooped down with the incredible concussion of world against world.

HURLEY opened his eyes to sunlight. Sunlight! He lay on a torn hillside at the base of which lapped the sparkling waters of a broad sea. On his breast was a soft, warm burden. Warm!

"Lesa!" he whispered wonderingly. He did not know or care what miracle it was that had brought this about; he knew only that Lesa was there in his arms, living, breathing, real.

"Tom!"

They clung together, weeping like children. Many minutes passed before Hurley thought to take stock of the situation.

He saw that the rock beneath them was in reality the floor of the ramp he

had traversed in the madness of the rhythm. Hundreds of tons of stone had been driven from the side of the hill by the force of the temblors following the crash of worlds, exposing their retreat to the open air. Air! He breathed deep, having no idea of its origin.

The Sun, high in a greenish sky, was of about the size it is when seen from the planet Mars. Overhead were a few light clouds. There was water vapor in this atmosphere. The temperature was comfortably warm; a breeze fanned their cheeks. A new and habitable world had come into being—no matter how.

Only a bank of ugly but swiftly receding black clouds low on the horizon gave evidence of the tempest which must have accompanied the re-creation of Dovar. Reason told Hurley that he had been unconscious a number of hours.

"Alloo-o!" It was Nealo's hail.

Looking in the direction from which the call had sounded, Hurley was amazed to see the Venerian reel down the hillside, hilariously drunk. He had nosed out a supply of some intoxicant, perhaps in Radva's chemical laboratory.

The slope was swarming with humans after that—passengers and crew of the *Centaurianic*, Dovardi, and survivors of the *Lycurgian* disaster. Some shouted with joy; others gave thanks to their gods; a few merely stared out at the sea with tear-dimmed, unbelieving eyes.

Remembering Plattner, Hurley rose up, lifting Lesa to her feet at his side. She was unsteady for a moment, but soon managed to stand erect and walk.

"There's an old man in there," groaned Hurley, pointing to the wreckage of the dome on the hilltop. "I must find him."

They made their way up the broken slope, heedless of those who were rejoicing in the release from a sleeping or waking death. The finding of Plattner was of far greater importance than was a reunion with friends and companions. Hurley came upon Quin Landru, who

was bent on the same mission. Between them they recruited a rescue party.

One of their men was Porter. Miss Perkins, with eyes shining and with the bloom of a lost youth restored to her cheeks, reluctantly let them take him from her. With the utmost solemnity Hurley cosigned Lesa to her safe-keeping.

The dome itself was in fragments. The apparatus was a mass of twisted metal and shattered crystal. In many places the thick metal floor had been torn asunder, revealing yawning openings down through the living quarters to the levels below. It was miraculous that so many had escaped with their lives.

They found Radva here in the ruins, hunched over the remains of his brother's casket. A glance showed Hurley that this one who had slept was never to awaken. They left Radva to his grief.

At length they came upon Plattner, unconscious but still breathing. His legs were pinned beneath a girder of the radio-telescope structure, but another girder, bridging his body, had prevented the crushing of his upper portion by the weight of debris above. With much difficulty they extricated him, then bore him tenderly to the floor of the living quarters below.

Radva, leaving his dead, followed unobtrusively. Later, he showed the way to the small hospital section which remained intact, offering his services as surgeon. Hurley and Quin Landru, knowing his skill, were quick to accept.

LESA and Miss Perkins made their appearance while the men waited outside the room for Radva's verdict. They were breathless with news. The living numbered seventy-six—forty-one Dovardi, nineteen from the *Lycurgian*, and sixteen from the *Centaurianic*, not counting Plattner. There were provisions to last at least a year of terrestrial time.

Hurley, though he held Lesa close to his side, scarcely heard. He was watching that door behind which lay the old scientist.

Quin Landru stole off for a look into the room where they had left Captain Marks, returned with whispered word that he was dead.

Presently Radva appeared. "Man lose one leg," he said soberly. "But he live. You want talk with him?"

"He's conscious?" marveled Hurley. "We can see him?"

"But yes." Radva's shrug was to belittle the importance of what he had done. "Radva want hear words of great man, too. Man learn what Dovardi not learn about dark body."

Propped up on cushions, Plattner greeted them warmly, though in a weakened voice. He nodded brightly at Lesa, then said to Hurley: "Congratulations, young man!"

Hurley's gaze strayed to the covers, resting on the flatness of them where a bulge should be.

"It was the palsied one." The scientist grinned. "I'm better off without it. Now I can get an artificial prop that will really work."

"You not talk long," warned Radva. "You promise tell——"

"Ah, yes; about the rhythm and all." Plattner lay back, closing his eyes and smiling reminiscently. Then he began to talk.

People listened when Plattner talked; at least these people did. Later on, the men of science who had cast him off might listen as well.

"I like to think of the universe as a colossal organism that has life and intelligence like a human being," he began. "That is, like *some* human beings. By the power of mind, of intelligence, or in the natural functionings of body mechanisms, the human being cures or tries to cure his ailments and hurts. Antitoxins are carried in the blood stream to combat bacteria at the seat of

disease. Lymph flows to the locus of an injury to produce coagulation and stop the loss of blood from the wound.

"So it is with the organism which is our universe. The rhythm of the cosmic-ray stream was the rhythm of a cosmic artery carrying its energies through space for the healing of a diseased or injured cell. Dovar, deprived almost of life, was the sick cell or atom or electron of matter in the vast organism we call the universe. The universe itself provided a cure."

Radva hung breathless on the scientist's words; the others sat equally spell-bound.

"First came the energy stream which swept Dovar from its orbit and approximately toward our own solar system. This stream carried not only the propulsive force but an anodyne as well, an anæsthetic to be used before and during the operation. This caused the state of suspended animation of those Radva termed 'dead-alive.' As the time for the operation drew near, the anæsthetic became more powerful, only those of strongest will power resisting it to the last—and any who might wear the ring of neutralizing metal." Plattner paused.

He grinned at Radva, then resumed: "A few unfortunates with physical weaknesses probably died under the anæsthetic before the operation on Dovar."

Hurley shivered involuntarily, thinking of what he had seen in some of the caskets in the region below.

"A second energy stream struck through space to meet the first one. It carried another body which was to meet Dovar at a predetermined point. The second body was comprised mostly of gases. You, Radva, did not know this; it was impossible to make accurate determinations of mass and composition until the last few hours."

Radva nodded vigorously, urging the scientist to go on.

"Very well! I shall not go into de-

tail, but the result bears out my calculations made just prior to the event. The mass of the dark body was about a tenth of Dovar's, though it was nearly as great in diameter. The shock of meeting was not sufficient to disrupt this planet Dovar, but generated sufficient heat to resolve the gaseous components of the dark body into water, atmosphere, and other substances whose value will later be apparent.

"The impact of the dark body was on the side of Dovar that faced away from our solar system and at such an angle as to produce two important results. First, it set Dovar spinning once more on an axis, thus providing for a night-and-day cycle. Second, it propelled Dovar out of the ray-stream energies and into the orbit of Mars, where it now revolves about our own Sun—a new planet in the solar system.

"By this time it must have been observed by even the slowest-witted of our astronomers; a fleet of space ships is probably already headed this way. No further danger is to be feared by any of you."

Quin Landru thought of one. "In the orbit of Mars, you say. May there

not be another collision—with *my* world?"

Plattner was slow to reply, but sure of his answer: "My calculations having thus far proved correct, I'm sure you'll find that Dovar is on the opposite side of the Sun from Mars and will so remain. The periods—of revolution of—the two planets—are identical. Is not this—evidence of a plan—of infinite intelligence——"

"He's fallen asleep," murmured Miss Perkins. "Poor man!"

Porter echoed her words as he was to echo her every sentiment in the years to come.

"Mm-m! Sleep natural," Radva affirmed. "Now we go."

Hurley whispered into the pink ear that was so close to his lips: "One thing Plattner can't tell us is what brought me out here to you."

"I know."

"What then?"

"You say it."

The single four-letter word he uttered must have been eminently satisfactory, if one was to judge by the light in Lesa Derian's eyes.

NEXT MONTH

A new writer—a profoundly different and beautiful treatment of an always fascinating idea——

TWILIGHT

by Don A. Stuart

A story of the far, faint future, of the fabulous cities and machines of man—and of his slow decline into eternal sleep.



Before his eyes a splendid and stately city was taking shape—out of the ruin of eye-wrenching color.

The Bright Illusion

*Science—even the science of a
god—could not shake the basic
fiber of a man who saw clearly*

by C. L. Moore

THROUGH the blinding shimmer of sun upon sand, Dixon squinted painfully at the curious mirage ahead. He was reeling with thirst and heat and weariness, and about him the desert heaved in long, blurred waves, but through the haze of his own weakness, and through the sun-haze upon the desert, he peered anxiously at the thing and could not make it out.

Nothing he had ever seen or heard of could cause such a mirage as this. It was a great oval of yellow light, bulging up convexly from the earth like some translucent golden egg half buried in the sand. And over its surface there seemed to be an immense busyness, as if it was covered with tiny, shimmering things that moved constantly. He had never seen anything remotely resembling it before.

As he toiled through the sand toward the bright illusion, he became aware of darker specks around it haphazardly, specks that as he approached took on the aspect of men grotesquely sprawled in attitudes of death. He could not make it out. Of course it was a mirage, yet it did not recede as he advanced, and the details of those sprawled bodies became clearer and clearer, and the great translucent oval loomed up against the sky mystifyingly.

He thought he must be dreaming, or perhaps a little unbalanced by heat and thirst. He had been struggling through

this burning sand under this burning sun for a long while now, and there were times when the rush of illusion swallowed him up, and he could hear water splashing and fountains tinkling in the empty desert about him. This must be a hallucination, then, for it could scarcely be a mirage. He was almost upon it, and it had so real a look—those bodies, sprawling—

He stumbled over the first, for somehow his muscles did not coordinate very well now. It was the sun-withered body of an old man in the legion uniform, his kepi fallen forward over his face. The next was that of an Arab in a tangle of dirty white garments, and beyond him was the almost-fresh corpse of a boy in khaki shorts and sun helmet.

Dixon wondered dully what had happened to them and why the bodies were in such varying stages of decomposition. He lifted a dragging head and peered at the great egg-shaped thing bulging up from the sand. It reminded him of a huge bubble of golden water, save that bubbles were round, and—

Belatedly, caution returned to him. These dead men must have met their deaths somehow through the presence of the great egg. He had better advance more cautiously or—and then the pull seized him. He had come too near. Something inexorable and slow was dragging him forward—or was it that the great bubble was advancing toward him?

Sky and sand reeled. And the distance between him and the great egg-shaped thing lessened and lessened and—and, somehow, he found himself flat against a great golden translucency that shivered against him with the strangest motion, as if it was alive and hungry for—

He felt that he should be afraid, yet, somehow, he was not aware of fear at all. The golden light was closing over him and around him with a queer, engulfing motion. He shut his eyes and relaxed utterly in the impassive grip of the thing.

DIXON was lying motionless in the midst of a golden radiance that seemed crystal clear, yet so obstructed his vision that he could see only a few yards away, and the desert landscape outside was as unreal as a dream. The most delicious sensation of rest and well-being was surging through him in slow waves that succeeded one another like ripples on a shore, each leaving an increasing residue of serenity and luxurious comfort. Thirst and hunger and weariness had vanished in a breath. He knew no fear or anxiety. In a trancelike calm he lay there, feeling the waves flow through him unbroken, staring up into the lucid golden light without wonder or surprise.

How long he lay there he never knew. In the perfect peace of the glow infolding him, he was very dimly aware that the all-penetrating waves were washing through him in a way which queerly suggested searching. They permeated every atom of him, flooding his brain with light and calmness.

In his tranced quiet he knew, without actually realizing, that memory in lightning flashes was reeling through his mind: Abstract memories of things he had learned in college and in after life. Snatches of literature, fragments of sciences. Mathematical problems solved in breath-taking speed and supplanted by chemical formulas that melted into

the bits of psychology remembered from school days. Impassively he lay there, scarcely realizing the flashing reviews that passed through his light-flooded brain.

And then the tempo of the ripples that went over him began to change. His mind awoke by degrees from its pleasant coma, though his body still lay relaxed. And now the wavelets in the queerest way were beating upon his brain tantalizingly. Little fragments of thoughts not his own blew through his mind and faded.

He struggled to grasp them. He clutched at the vanishing tags, striving to weld them together, feeling obscurely that if he could retain each small flutter as it wavered through his mind, if he could put them together and fuse them in a unit, he might understand.

Very slowly he succeeded. Very slowly the waves as they flowed through him began to surrender their meanings to his clutching mind; meanings that solidified and amplified with each succeeding wave, building themselves up slowly as ripple after ripple washed serenely through the straining brain that was learning so painfully to comprehend their significance.

By degrees Dixon realized that some intelligence was striving to communicate with him. The knowledge did not come in words, or even word-forms introduced into his brain. But it came, slowly and inexorably, building up and up as wave after measured wave flowed through him and vanished, leaving a residue of knowledge to be increased by the next.

And the vast, the almost divine, impersonality of it staggered him. This being—intelligence—presence—was so utterly abstract a thing that even in the knowledge it imparted to him was no hint of personality or consciousness of individual being. There could have been no "I" in its supervocabulary of thought-ripples. Divinely serene, di-

vinely abstract, it allowed knowledge to flow through the brain of the man suspended in its heart. And by measured degrees that knowledge built itself up in his mind.

He had been chosen. For a long while this being had been waiting here, trapping the men who came near enough, sending its light-waves in floods through their minds to illuminate their thoughts and their capacity for knowledge, probing their intelligences. All those others lying outside had been found wanting. The being had discarded them and waited, in its serene passivity, until the right man came by.

This much flowed through his brain. Then there was a hiatus, to permit him to absorb the knowledge, to understand. After a while the wavelets began to beat through him again in their measured slowness. He became aware of vast, dim voids, blank stretches empty of space or time or any of the myriad dimensions. He knew that through these, while long periods elapsed which yet had no relation to the time he understood, the great light-bubble had traveled from some origin unthinkable far away, on a quest. He realized that it had at last emerged from those gray, formless voids into the interstellar space of his own universe; that it had made its way here, driven by a vast purpose he could not grasp, and had come to rest upon the desert sands, to lie in wait.

Again there was a gap in the thought-waves, and again Dixon lay still, assimilating that stunning knowledge. And yet, somehow, he was not greatly surprised or in the remotest way skeptical. He waited.

PRESENTLY the flow began again. There was, in another part of space, a world which this being desired—or no, not desired. There was nothing so human or personal a thing as desire about it. A world which it meant to have; a very alien world, he gathered, from the

sort he knew. Peopled by alien creatures and built in other dimensions than those which formed his own universe.

These people worshiped a powerful god. And it was this worship—this godhood—which the being that infolded him meant to possess. It tried to give him a glimpse of why, but the thought-waves which flowed through his brain were incomprehensible and remote—not knowledge, but a jumble of unrelated impressions, without coherence. After a few vain attempts to instill the reason for its purpose into his mind, the being apparently dismissed the point as unnecessary and went on.

This god which it meant to dispossess was very powerful; so powerful that of itself the being could do nothing to overthrow it, could not even pass the barriers set up to guard the strange world. It had need of an intelligent, animate creature from a world different enough in structure so that the god's peculiar powers would have no effect upon him.

Gradually the measured beats made it clear to Dixon that he was the chosen envoy. He was to be transported there, armed in potent ways, sent out into the new world to overthrow the god's domain and make way for his sponsor to take possession.

There was a long hiatus after that. Dixon lay quiet, rather stunned by the magnitude of the thing. The being which engulfed him must have sensed the growing rebellion in his mind, for after a while the beats began again. And Dixon knew that the proposition was not a compulsory one. But—the knowledge flowed casually through him—though he was free to be released and set back upon his journey if he refused the plan, he would inevitably die soon—die very unpleasantly.

There was no water within any possible reach, and a band of veiled Touregs was scouring the desert near by in search of that Arab who lay in a hud-

dle of dirty white robes outside the egg-shaped bubble. If he did not die of thirst before they caught him, he would die in a manner infinitely more undesirable at their hands. But, of course, if he so desired, he was free to go.

Dixon digested this information thoughtfully, hesitating though he knew he had no choice. His blind stumbling through the desert could have no other end than slow death, as he had been aware even before he came upon the great bubble. And if there were Touregs near—even in the bodily trance that cradled him he shuddered. He had seen victims of Toureg tortures, miraculously alive after days and days of— He turned his mind from that. No; he had no choice.

And gradually a little spark of excitement began to burn in him. What an adventure! And though death might lie at the end of it, there was at least a hope for life, and he knew he had not even that if he refused. Consent was forming in his mind, but even before it crystallized, the being must have known, for about him the lucid radiance suddenly began to cloud and change. Milkiness flooded through it and through his body and his brain. Oblivion swallowed him up.

WHEN realization returned to Dixon it came slowly. Layer by layer the oblivion melted from his mind. He had a vague impression of vast spaces traversed and barriers surmounted, and somehow he sensed an indefinable difference in the space that surrounded the bubble, though it was indefinite how he knew it. A little beat quivered through him, and another, clearing away the fogs of his consciousness. Then knowledge began to pulse again through him in measured flow.

They had crossed gulfs greater than he could comprehend. They were suspended now above the world of their destination. He was to look briefly

upon it, for even through the protecting walls of the light-bubble the thing that he would see was so alien to him that in his present form he could not bear to gaze upon it long.

Then the light about Dixon cleared to translucence, and somehow he was looking out and down upon a scene that stunned his eyes with its violence. He had an instant's impression of a land that shrieked and raved with maniacal color beyond any conception of color as he knew it. He turned his eyes wincingly away and stared down at the scene immediately below. And though in point of actual space it must have been very far away, he could see everything quite clearly and with a wider radius of vision than he was accustomed to. It was as if in one glance he encompassed the whole circle of the horizon.

The world below was one vast city that reeled away in terrace below crazy terrace out to a sky line that shimmered with white dazzle. And the colors that blazed and howled and agonized over the insane angles of the place turned him sick and dizzy. They were incredible angles and impossible colors, the tints and the tilts of madness—wild, staggering lines and arcs and jagged peaks, crazy inclines broken by ridges of eruptive color, zigzag bridges, buildings that leaned out in gravity-defying angles.

All these incredible terraces mounted up and up in diminishing arcs to the topmost tier of all. This was small and smooth, though over its pavement the insane colors sprawled blotchily. And in the very center a mighty column rose, blacker than any darkness he had ever seen before. On its height burned a pale flame.

But the inhabitants! Dixon could see them quite clearly despite the distance. They were sinuous and serpentine, and their motions were blurs of swiftness, poems of infinite grace. They were not men—they had never been men in any

stage of their evolution. And if the colors of the buildings were agony to his eyes, the living, unstable ones that writhed and crawled over the things below were so frightful that his gaze rebelled. For this reason he never knew just how they were shaped.

There was one standing just below the great black pillar whereon burned the flame, and of this he had the clearest view. It was boneless and writhing, livid with creeping color. Its single great eye, lucid and expressionless, stared from an unfeatured, mouthless face, half scarlet and half purple, between which two shades a wedge of nameless green broadened as he looked away.

He had seen this much before the pellucid crystal began to cloud about him once more and the slow knowledge began its beat through his brain. He must look no longer, or something disastrous might happen to his benumbed senses. He understood by now that it was not in his own form that he was to go out into the crazy land. He was sure, even without that seeping knowledge, that his own body could never endure the colors of the place, nor could his own material feet tread the dizzy angles. Many of the streets and bridges were too steep for human feet to walk.

And he was understanding, as the slow waves flowed on, how different these people were from his own kind. Not only in appearance; their very substance was different from flesh and blood, the atoms arranged in different patterns. They obtained nourishment in an incomprehensible way from some source he could not understand. Their emotions and habits and purposes were alien to all his experience, and among them even the sexes were not those he knew.

They were more numerous than mankind's two, and their functions were entirely different. Reproduction here was based on an utterly alien principle.

When the pause came in the waves of knowledge, Dixon was a little dizzy with the complete strangeness of this place and with wonder how he would be enabled to enter it. He lay still, wondering, until the flow began again.

THEN the knowledge of the way he was to be introduced into the strange god's domain began to surge in deliberate beats through his brain. It seemed simple, yet the magnitude of it was staggering. A sort of veil of illusion was to be dropped between him and these alien beings. To them, his form would seem one of their own. Through the veil his speech would be filtered and changed into their indescribable mode of communication. And to him they would have the appearance of humanity, their speech would be understandable, their curious emotions translated into familiarity.

Even their multiple sexes would be resolved arbitrarily into two. For though this being could not approach any nearer the strange god whose flame burned upon the pillar, it seemed to have immense power even from this distance in the crazy world below.

The slow-beating waves made him aware that during his sojourn in the strange place he would be guided and in a measure protected and that this knowledge would still flow through his brain. All this was possible, he understood, because of his own complete difference from anything in this world—such a difference that he would not cause even a ripple upon the surface of the god's consciousness until the time came for his overthrow.

Then again the cloudiness began to clear, until Dixon was looking out through crystal walls upon that reeling city below. For an instant it shuddered with mad colors before his aching eyes. And then over the whole crazy panorama the queerest blurring came. He looked down upon a changing world

wherein the wild colors faded and ran together and the staggering angles of that mighty vista below were obscured in structural changes whose purpose he began to understand.

Before his eyes a splendid and stately city was taking shape. Out of the ruin of eye-wrenching color rose tier beyond tier of white pillars and translucent domes. Roofs of alabaster formed themselves under a sky whose pallor was deepening into blue.

When he tore his eyes away from that magnificent vista, terrace dropping away below terrace, crowned with domes and spires and columns wreathed in green, far out to the distant horizon, he saw that over the crowded streets with their swarms of multicolored horrors a stranger change was falling. Out of the mingling indistinctnesses of those colors without name, the semblance of humanity grew. People of noble stature and stately bearing, robed in garments of shining steel, took form before his eyes.

In less time than it takes to tell, a metropolis of familiar aspect stretched invitingly under his gaze. That nightmare of colors was gone as a nightmare goes, leaving no faintest trace behind. Yet he knew as he looked down that in reality nothing was changed. The writhing people still flashed with the infinite speed and grace through tip-tilted streets of gravity-defying angles. He blinked and looked again, but the illusion held steady—a stupendous city, smiling under a blue, familiar sky.

Slowly through his consciousness beat the realization that, once down there in the metamorphosed world, he must search out the temple of the god, find its vulnerable spot, provide as it were a window, so that through his eyes the being which had brought him here could see its enemy's weakness and instruct Dixon further. And it was impressed upon him, too, that all possible speed must be made, for though there was lit-

tle danger that the god would realize the inimical presence, yet his very safeguard was his greatest danger.

Dixon was so alien to the ultimate particles of his being that, though this protected him from the god, yet it made his maintenance in the strange world very difficult. It was a strain even upon the vast powers of the light-bubble being to keep that veil of illusion stretched protectingly between him and this world, the very sight and touch of which would send him mad if he was exposed to it long unguarded.

THERE was a little pause after this, and Dixon lay still, awed by the unthinkable difference between his own structure of mind and body and that of the strange place and people below. Then with breath-taking abruptness, darkness dropped over him. One instant he lay serenely cradled in golden radiance, the next he was dropping through blackness with a queer, high scream in his ears as if he fell through some resisting atmosphere which was not air. Physically he was protected, but he could hear the thin sound of it in varying intensities.

And then without warning the darkness broke, and he found his feet upon solid ground without any hint of jar. He was simply standing upon a marble pavement under a clear blue sky and looking out over a breath-stopping vista of world-city, dropping away in terrace below shining terrace to a distant sky line, out and away in broadening tiers.

Light shimmered dazzlingly upon far-away steel figures moving through the streets below, away and away until they were no more than tiny pin pricks of shimmer on the horizon's edge. From each broad circular terrace a marble ramp led down to the next beneath, and over these the steel-bright people were swarming in busy hordes.

And Dixon knew, even as he stared with caught breath at the magnificence

of it, that in reality he stood at the apex of a city of madness that reeled away below him in tier after crazy tier, a nightmare of meaningless angles and raving color, through whose streets things writhing and dreadful and a-crawl with living hues were flashing with movements of blurring speed.

All this splendor was a veil across his eyes. What unknowable activities were really taking place below? On what nameless errands were these busy crowds bound? Then a little sound at his side turned him from the dizzy thoughts tormenting his brain, and he flashed an abrupt glance sideways, alert for danger. Then he caught his breath and stared.

SHE WAS SLIM as a sword blade in her steel robe, standing under the mighty tower of the black pillar, and she was lovelier than a dream. Her hair swung in black, page-boy curls to her shoulders, and from under the darkness of it eyes as blue as steel met his unwaveringly. She was all bright metal to his first glance, steel-molded curves of her under the armored robe, steel lights upon her burnished hair, steel-bright eyes shining.

All steel and brightness—but Dixon saw that her mouth was soft and colored like hot embers. And for an instant he wanted to burst into crazy song. It was an inexplicable feeling that he had never known before, a heady delight in being alive. But even through the exultation, he knew that he looked upon an illusion. He knew that she was a faceless, crawling thing, without sex, without any remotest kinship to anything he knew. And yet this illusion was very lovely and—

She was looking up at him with startled eyes, and now she spoke, a little breathlessly, in a sweet, tinkling voice: "You—you have come? Oh, whence have you come?" And he thought that she was striving hard not to believe

something which she wanted with all her soul to think true.

There was no answer he could give. He glanced around helplessly at the blue, empty sky, at the great pillar rising behind her, at the pale flame burning so steadily upon its summit. That blaze held him for an instant, and in the instant he stood with eyes uplifted, the girl must have thought she had her answer, for she caught her breath in a gasp that was half a sob, and in one swift motion she fell to her knees before him, a miracle of sliding grace in that close gown of steel, so that the light rippled all down her sweet, slim body and lay bluely on the wings of her hair that swung forward as she bent her head.

"I knew it! I knew!" she breathed. "I knew my god would send you! Oh, praise great IL, who has sent me such an envoy!"

Dixon looked down upon the bent black head, his eyes troubled. If she believed him a messenger from the god, it would simplify his task enormously. And yet—he had entertained no scruples about displacing the god of a maniacal world peopled with writhing monstrosities, but this was different, somehow. This girl—

"I am the high priestess of our god," she murmured, as if in answer to his half-formed query. "I have served IL with all my heart for many cycles now, but only he knows how I have prayed for the coming of an envoy among us. Such honor is enough to—to—" The sweet voice choked suddenly on a sob, as if the answer to her prayer was too much for her to endure unmoved.

Dixon bent and took her chin in his hand, lifting her face to his. The steel-bright eyes were dazzling with diffused tears. The red mouth trembled. She was looking up at him with awe and worship upon her face, and suddenly he knew that he wanted no worship from her. He resented that look

of respect and awe. He wanted—well, he wanted her to see a man, not a divine messenger. He wanted to—

Then the queerest madness came over him, deliciously—and he acted. He stooped swiftly and set his lips over the trembling red lips of the girl, and for an instant the whole strange world reeled and swam in a heady pleasure like nothing he had ever known before.

When he straightened and stood looking down upon her, she met his eyes with purest bewilderment in hers, one hand hovering at her lips and incomprehension radiant in every line of her. Her blue gaze was traveling over him from head to foot in swift, puzzled glances.

And then realization swept back upon him tremendously. To her he wore the writhing shape that was hers in reality. That troubled blue gaze was the gaze of a single pale eye which traveled over the crawling limbs of a monster. He was not even sure that, to her, kneeling denoted homage and wondered in what alien way she was actually expressing her awe.

It was an uncanny feeling which was to haunt him through all his hours here—the knowledge that what he looked upon was unreal, the wonder as to what was actually taking place behind the mask of humanity which only he could see. That kiss—how had it seemed to her? What nameless gesture had he seemed to perform before her eyes—her eye? For he had kissed a monstrosity that had no mouth. Remembering the glimpse he had caught of a one-eyed, featureless face crawling with alive colors, he shuddered and turned back to the kneeling girl as if for reassurance.

DIXON was aware of a curious emptiness within him because of this beauty which was only an illusion—had never been, would never be. He was looking straight into her steel-blue eyes

now, and she was smiling very tremulously and with that puzzled look still upon her face. He could see the little shimmering tumult her heart made under the dazzle of her robe. And she was not even female!

He narrowed his eyes and strove to pierce the mirage for a moment; to convince himself that here knelt a colored horror of sinuosity and sexlessness. And everything within him cried out protestingly. She was human—she was lovely—she was everything desirable and sweet. And she did not even exist save as a crawling horror upon whom in her normal guise he could never dare to look.

Then, as if to refute that, she flashed up at him a small, uncertain smile which made her so unmistakably human and sweet that he disbelieved everything but her own reality, and she said:

“What—what was the meaning of that, O divine envoy?”

He frowned. “You are to call me Dixon,” he said. “And that was—well, just a form of greeting.”

“The way they greet one another in great IL’s domain—in paradise? Then —” She rose in one swift motion. Before he realized what was happening she had risen upon her sandled toes and her warm mouth was brushing his. “Then I return your greeting, O Dixon.”

Involuntarily his arms closed around her. Her body was firm and soft and warm in his clasp—the body of a living human girl—a mirage more real than reality. And again he wondered what nameless rites she was actually performing behind the illusory veil which masked her real, writhing self. And because she felt so pleasant in his arms he released her abruptly and stepped back, knowing the first quickening of uneasiness. Good Heaven, could it be possible for a man to fall in love with a hallucination?

She looked up at him serenely, evi-

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dently feeling that she had mastered a difficult point of divine etiquette.

"How pleasant a thing is this new way of greeting!" she murmured, half to herself. "And now, O Dixon, you have but to command me in all things. What would you in IL's world-city?"

Dixon debated swiftly with himself. After all, lovely though she seemed, she was—and he must bear this in mind constantly, lest something dangerous befall—she was a sinuous, faceless thing, a creeping horror with the tints of an incredible spectrum. She was no more than this, and he must find his way, by her help, into the god IL's temple and let the light-being look through his eyes so that he might find IL's vulnerable spot.

After that—well, he must do as he was commanded. IL would be overthrown, his own sponsor would usurp the godship, and that would be all. As for these beings which peopled the world, no doubt the change of gods would be a startling thing, but there was no help for it. He had but to perform his own part and then go.

"O Dixon!" the sweet, light voice of the girl broke in upon his thoughts. "O Dixon, would you see how IL's temple is kept by his worshipers? Would you see how devoutly his world adores him?"

"Yes," said Dixon thankfully. "You may lead me to IL's temple."

She genuflected again, a poem of grace in that steel gown along which the light slid in long lines as she moved, and the dark hair swung forward about her face. Then she turned and crossed the terrace toward a ramp which led down into the city. They went down the slope of it—what eye-tormenting angles of spanning actually led downward he could not even guess—and emerged upon a broad street lined with pillared buildings. There were throngs of steel-robed people here who parted in devout

rows as the priestess came down the ramp.

She paused at the head of the street and lifted her arms, and Dixon heard her voice ringing clearly over the crowd.

"Great IL has answered our prayers at last," she cried. "He has sent us an envoy from his own divinity. Here is the messenger from our god!"

A MURMUR went over the crowd—a murmur of awe and rejoicing. And then they knelt in long, sinuous rows as if a wind had blown across a field of sword blades. And with incredible swiftness the whisper ran back along the street, from mouth to mouth. He imagined it rippling out and out, down and down, from terrace to terrace, until it reached the ultimate limits of the whole tiered world.

They stepped down among the kneeling throngs, walking a lane of steel worshipers, and by the time they had reached the end of the street Dixon could see flecks of light far away below hurrying upward as the news spread. Up through the pillared streets and the green terraces they came swarming, men and women in robes of linked metal, with intent, awe-struck faces upturned.

Dixon moved on with a long stride, a divine messenger from a god marching in triumph, through a city without ends or boundaries, for as far as he could see the steel flecks that were people flashed up through the buildings below. And their multitudes were breathtaking. The whole vast city swarmed with living steel as wave after wave of armored people rolled upward toward the heights. His brain reeled with the numbers of them.

Over the bowed heads of the throngs as they advanced, Dixon glanced curiously at the buildings which lined the streets, casting about for some clue to the sort of life those people led. He found nothing. The marble pillars and

walls rose as blankly as stage sets along the streets. A mask had been set for him over the realities of the place, but it was not a living mask. There were no shops, no markets, no residences. Rows of noncommittal pillars faced him blankly, betraying no secrets. Apparently the light-being had been unable to do more than mask the strangeness of this world. It could not infuse into it the spirit of a daily life so utterly alien as man's.

They went on through the dead-faced streets, down another ramp, and always the people dropped to their knees, perfectly the illusion of humanity. What, he wondered, were they actually doing? In what weird, incredible way were they really expressing their devotion? It was, of course, better not to know.

Dixon watched the girl before him walking proudly and lightly through the homage-stricken throngs, her dark head high, the steel robe rippling over the loveliness of her body as she moved. Presently she paused for him, smiling over her shoulder in a way that made his heart quicken, and turned in under the great arch of a doorway.

It was not a particularly imposing structure; no more than a marble-columned building with a huge dark portal. But once inside Dixon stopped in stunned astonishment at the vastness spread out before him.

It must have occupied the whole interior of all the terraces above—a mighty dome about which the buildings and streets overhead were the merest shell. In the dimness he could not descry the limits of it, but he saw that the whole vast temple was built in the shape of a great dome. For temple it must be. He knew that instinctively. There was the shadow of divinity in it, somehow—a vast calm. And for an instant, as he stared about the great place, he forgot even the presence of the girl at his side.

In the very center of the wide, dark

floor lay a pool of pale radiance which somehow gave the impression that it seethed and boiled, though its surface lay untroubled under the lofty dome of the roof. And above the pool the ceiling was shaped like a burning lens to gather and concentrate the radiance arising from it. This centered at the apex of the roof in a dazzle of light at which he could not look directly. He realized that the center of this burning brilliance must be just under the pillar which crowned the topmost terrace—the pillar upon which burned the flame of IL.

Beyond the column of light rising from the pool, Dixon saw dimly in the gloom of the great temple the glimmer of steel robes. There was an arch in the far wall, so distant he could scarcely make it out, and in this doorway a small steel figure stood. As he watched, the sonorous boom of a gong rang through the dimness. The air trembled with sound, and through the shaking twilight the figure stepped out resolutely, crossing the floor with even, unhurried strides.

He could not tell at that distance if it was man or woman, but it approached the radiant pool with, somehow, a sort of restrained eagerness that he was at a loss to understand. It reached the brink, and did not pause. The haze of light rising from the pool swallowed it without a flicker. And the great dome was empty again save for themselves.

DIXON turned, awe-struck, to the girl, questions hovering on his mouth. Just in time he remembered his rôle, and rephrased the query: "And how do you interpret this, priestess?"

She smiled up at him bewilderingly. It irritated him that his heart made that odd little leap whenever she smiled so, and he missed the first of her answer in watching the way her lips moved to frame the words she spoke.

"—continually, at every beat of the

signal," she was saying, "so that there is never an interval through all time when one of us has not completed his cycles and is ready to return into the flame." The gong sounded above her light voice. "See? Here comes another. And for countless ages it has been so, for our numbers are great enough so that the stream of voluntary sacrifices need never falter. So we nourish IL's flame and keep it burning."

Dixon said nothing. His eyes were upon her, but the bright illusion was swimming curiously in a mist that was closing down over him, and he was becoming aware of a strange pulsing of his own blood, as if—yes, as if familiar waves of knowledge were beginning their beat through his receptive brain.

For a timeless interval he stood rigid, receiving that intelligence, feeling all he had seen and heard draining out of him into the vast reservoir of knowledge which was the light-being, feeling the voiceless commands of it flowing in.

Ripple after ripple of the incoming tide rose in his brain. And gradually, in measured beats, he learned that this pool was the source of the pale flame burning upon the pillar, but that it was not essentially a part of it. The god IL drew his power from the dissolving lives of those people who sacrificed themselves—and this was the only way to destroy them, for they could not die otherwise—but IL was not present in the pool. IL was the flame on the column, no more, feeding upon the reflection from below. And if the rising light could be cut off temporarily IL's power would fail at its source. The invader could make an entrance and fight it out with him.

And now for an instant all the thought-flow ceased; then in sharply clear ripples of intense emphasis came the syllables of a word. It was a word without meaning to Dixon, a word whose very sounds were unlike those of any language that man speaks. But

he knew that he must speak it, and that the cadences of the sound would somehow open the way for the light-being to enter. With the impression of that word upon him the ripples ceased. A profound quiet reigned in his mind.

Out of that quiet the great domed temple slowly took form about him again. He heard the gong notes trembling through the air and saw another steel-robed figure pacing toward the pool. He turned his head and looked down into the high priestess' face at his shoulder. He had only to speak the word now and accomplish IL's overthrow—and then leave. Leave her—never see her again, except perhaps in dreams.

Her eyes met his with a little kindling under the blueness of them, and her mouth trembled into a smile as she met his gaze. She had the look of one eager and taut and waiting, and there was perfect faith in her eyes. And in that instant he knew he could not betray it.

"No," he murmured aloud. "No, my dear; I can't—I simply can't do it!"

Her brows drew together in exquisite bewilderment. "Do what?" she asked in a light whisper, to match his own lowered tone. "Do what?" But somehow the answer seemed not to interest her, for she did not pause for a reply. She had met his eyes and was staring up in a sort of dazed surprise, her blue gaze plunging into his with rigid intensity. And slowly she began to speak, in a tiny, breathless murmur:

"I think—I think I see—O Dixon, the strangest things—in your eyes. Dreadful things and shapes without meaning—and something like a veil between us—Dixon—so nothing is clear—and yet—and yet, Dixon, my own face is looking back at me out of your eyes."

He caught his breath suddenly in a painful gasp, and in one involuntary motion he had her in his arms. She clung to him blindly. He could feel

the trembling that shivered through her steel-sheathed body, and her heart's pounding shook them both.

"I am afraid, Dixon—I am afraid!" she wailed softly. "What is it that frightens me so, Dixon?"

He did not answer. There was no answer. But he hugged her close and felt the sweet firmness of her body against his and knew helplessly that he loved the illusion that was herself and would always love it.

DIXON was frightened, too; frightened at the depth of the emotion that shook him, for he was remembering the clinging of her soft mouth to his, and how beautifully her body curved under the embrace of her metal robe, and that the loveliness which filled his arms and his heart was no more than an illusion to mask something so grotesque that he could never bear to look upon it, unmasked. Lovely body, lovely face, sweet, warm mouth upon his—was this all? Could love rise from no more than a scrap of beautifully shaped flesh? Could any man love more than that with such intensity as shook him now?

He loosed her from one arm and set his finger under her chin, lifting her face to his. Her eyes met his own, blue and puzzled and afraid, and shining with something very splendid which all but blotted out her bewilderment and her terror.

"I love you," he murmured. "I don't care—I love you."

"Love?" she echoed in her light whisper. "Love?"

And he saw in her eyes that the word had no meaning for her.

The room reeled about him for an instant. Somehow he had never thought of that. Knowing as he did of the immense gulf between them and the strangeness of the emotions which swayed these creatures of such alien race, yet it had not occurred to him that anywhere throughout the cosmos where

living beings dwelt there could be a species to which love had no meaning. Was she then incapable of feeling it? Good Heaven, was he doomed to love an empty body, soulless, the mirage masking a sexless being who could not return any emotion he knew?

He looked down and saw the diffused radiance behind her eyes, shining and very tender, and the bewilderment upon her face, and he thought, somehow, that he was hovering on the very brink of something vaster than anything he had ever known before—an idea too splendid to be grasped. Yet when he looked down into her eyes he thought he understood—almost—

Suddenly all about him the world trembled. It was as if the whole vast place were the reflection in a pool, and a ripple had passed blurringly over the surface. Then everything righted itself. But he understood. He had been here too long. The veil between him and this alien world was wearing thin.

"No—I *can't* go!" he groaned and gripped the girl closer in his arms. He must have spoken aloud, for he felt her stir against him and heard her anxious voice:

"Go? O Dixon, Dixon—take me with you! Don't leave me, Dixon!"

Some fantastic hope flowered suddenly within him.

"Why not?" he demanded. "Why not? Tell me!" And he shook her a little in his urgency.

"I don't know," she faltered. "I only know that—that—O Dixon, that I shall be so lonely when you have gone. Take me—please take me!"

"Why?" he demanded inexorably. For he thought now that he was hovering very near the understanding of the vast and splendid thing which had almost dawned upon him before the world shook.

"Because I—because—I don't understand it, Dixon—I can't tell you why—I haven't the words. But since you

came I—is it that I have been waiting for you always? For I never knew until you came how lonely I had been. And I cannot let you go without me. O Dixon, is this what you call love?"

There was pain in her voice and in her veiled eyes. And the thought came to him that love was like an infectious germ, spreading pain wherever it rooted itself. Had he brought it to her—infected her, too, with the hopeless passion he knew? For it was wildly hopeless. In a moment or so he must leave this alien place forever, and no power existent could maintain very long the illusory veil through which they knew love.

Could his own new love for her endure the sight of her real self? And what would happen to this strange flowering of an emotion nameless and unknown to her—her love for him? Could it bear the look of his human shape, unmasked? And yet, he asked himself desperately, could a love as deep and sincere as the love he bore her be so transient a thing that he could not endure the sight of her in another guise? Could—

AGAIN that queer flickering flashed over the world. Dixon felt the ground underfoot tilt dangerously, and for a moment insane colors stabbed at his eyes and the whole room reeled and staggered. Then it was still again. He had scarcely noticed. He swung her around to face him, gripping her shoulders and staring down compellingly into her eyes.

"Listen!" he said rapidly, for he knew his time was limited now, perhaps to seconds. "Listen! Have you any idea what you are asking?"

"Only to go with you," she said. "To be with you, wherever you are. And if you are indeed IL's messenger—perhaps a part of his godhead—then shall I enter the flame and give myself to IL?"

In that way can I join you and be one with you?"

He shook his head. "I am not from IL. I have been sent to destroy him. I'm a man from a world so different from yours that you could never bear to look upon me in my real form. You see me as an illusion, just as I see you. And I must go back to my own world now—alone."

Her eyes were dizzy with trying to understand.

"You are—not from IL? Not as you seem? Another world? Oh, but take me with you! I must go—I must!"

"But, my dearest, I can't. Don't you understand? You couldn't live an instant in my world—nor I much longer in yours."

"Then I will die," she said calmly. "I will enter the flame and wait for you in death. I will wait forever."

"My darling, not even that." He said it gently. "Not even in death can we be together. For when you die you go back to IL, and I go—I go—back to another god, perhaps. I don't know. But not to IL."

She stood, blank-eyed, in his grasp, trying to force her mind into the incredible belief. When she spoke, the words came slowly, as if her thoughts were speaking aloud.

"I don't understand," she said. "But I know—you speak the truth. If I die by the flame—in the only way there is for me to die—we are parted forever. I can't! I won't! I will not let you go! Listen to me—" and her voice dropped to a soft whisper, "You say you came to destroy IL? Why?"

"As the envoy of another god, who would take his place."

"I have given my whole life to the worship of IL," she murmured to herself, very gently. And then, in a stronger voice: "But destroy him, Dixon! There may be a chance that way—there is none now. Oh, I may be a traitor—worse than a traitor."

There is no word to describe one who betrays his god into destruction, no word terrible enough. But I would do it—yes, gladly, now. Destroy him, and let me seek another death somewhere—somehow—let me die as you die. Perhaps your god can release me into your sort of death, and I can wait for you there until you come. Oh, Dixon, please!”

The idea was a staggering one, but for a wild moment Dixon knew hope again. Might it not be that—that—

Quite suddenly he understood. He looked down on the loveliness of her with unseeing eyes. In these past few moments of insanity, learning that she loved him, too, enough that she begged death of him, if in that way they might be united; in these few moments he came to realize that the flesh meant nothing. It was not her body he loved.

And a great relief flooded him, to be sure of that—sure that it was not merely infatuation, or desire for the loveliness which did not exist save as a mirage before his eyes. No, it was love, truly and completely, despite the shape she wore, despite the nameless sex that was hers. Love for herself—the essential self, however deeply buried beneath whatever terrible guise. And though her very substance was alien to him, and though no creature in all her ancestry had ever known love before—she loved him. Nothing else mattered.

And then without warning the great dome before him wavered and contorted into impossible angles, like the reflections in a flawed mirror. And Dixon felt the firm curved body in his arms melting fluidly into a different form and texture. It squirmed—

He stood at the entrance to a mighty room that staggered with frantic color, reeled with eye-stunning angles and incredible planes. And in his arms—he looked down. He clasped a creature at which he could not bear to look directly,

a thing whose wild-looped limbs and sinuous body rippled and crawled with the moving tints of madness. It was slippery and horrible to the touch, and from the midst of a shifting, featureless face a great lucid eye stared up at him with desperate horror, as if it was looking upon something so frightful that the very sight was enough to unseat its reason.

DIXON closed his eyes after that one revolting glimpse, but he had seen in the eye upturned to him enough of dawning comprehension to be sure that it was she whom he held. And he thought that despite the utter strangeness of that one staring eye there was somewhere in the clarity of it, and the steadfastness, a glimmer of the innermost spark which was the being he loved. That spark which had looked from the blue gaze he had seen in its human shape. With that inner spark of life she was the same.

He tightened his grip upon her—or it—though his flesh crept at the contact and he knew that the feel was as revolting to it—as to himself, and looked out over that shallow, color-stained head upon the vast room before him. His eyes throbbed savagely from those fierce colors never meant for human eyes to see. And though the creature in his arms hung acquiescent, he knew the effort it must cost to preserve that calm.

A lump rose in his throat as he realized the significance of that—such utter faith in him, though he wore a shape terrible enough to bring the fear of madness into that great, lucid eye when it rested upon him. But he knew he could not stand there long and retain his own sanity. Already the colors were raving almost audibly through his brain, and the ground heaved underfoot, and he was sure that neither of them could endure much more of this. So he gripped the dreadful thing which housed the being he loved, and almost

of itself he felt that incredibly alien word rip itself from his lips.

It was not a word to be set down in any written characters. Its sound to his ears was vague and indeterminate, like a whisper heard over too great distances to have any form. But the moment it left his lips he felt a vast, imponderable shifting in the substance of the temple. And like a shutter's closing, the room went black. Dixon gave one involuntary sob of relief as the maniacal colors ceased their assault upon his brain, and he felt the dreadful thing in his arms go rigid in the utter blackness. For a moment everything was still as death.

And then through the dark around them a tiny shiver ran, the least little stir of motion, the thinnest thread of sound. It pierced Dixon's very eardrums and shuddered thrillingly along his nerves. And with incredible swiftness that tiny stirring and that infinitesimal sound grew and swelled and ballooned into a maelstrom of rushing tumult, louder and louder, shriller and shriller. Around them in the blackness swooped and stormed the sounds of a mightier conflict than any living man could ever have heard before—a battle of gods, invisible in the blackness of utter void.

That stunning uproar mounted and intensified until he thought his head would burst with the infinite sound of it, and forces beyond comprehension stormed through the air. The floor seemed to dissolve under him, and space whirled in the dark so that he was conscious of neither up nor down. The air raved and shrieked. Blind and deafened and stunned by the magnitude of the conflict, Dixon hugged his dreadful burden and waited.

How long it went on, he never knew. He was trying to think as the turmoil raged around his head, trying to guess what would come next; if the light-being in its victory could unite them in

any way, in life or in death. He could think of that quite calmly now, death and union. For life without her, he knew unquestioningly, would be a sort of living death, alone and waiting. Living was where she was, and if she were dead, then life lay only in death for him. His head reeled with the wild wonderings and with the noise of battle raving about them both.

For eternities, it seemed to him, the whole universe was a maelstrom, insanity shrieked in his ears, and all the powers of darkness swooped and screamed through the void about him. But after an endless while, very gradually he began to realize that the tumult was abating. The roaring in his ears faded slowly; the wild forces storming through the dark diminished. By infinite degree the uproar died away. Presently again the stillness of death descended through the blackness upon the two who waited.

THERE was a long interval of silence, nerve-wracking, ear-tormenting. And then, at long last, out of that darkness and silence spoke a voice, vast and bodiless and serene. And it was not the voice of the light-being. It spoke audibly in Dixon's brain, not in words, but in some nameless speech which used instead of syllables some series of thought-forms that were intelligible to him.

"My chosen priestess," said the voice passionlessly, "so you would have had me destroyed?"

Dixon felt the convulsive start of the creature in his arms and realized dimly that the same wordless speech, then, was intelligible to them both. He realized that only vaguely, with one corner of his mind, for he was stunned and overwhelmed with the realization that it must be the god IL speaking—that his own sponsor had been overcome.

"And you, Dixon," the voice went on evenly, "sent by my enemy to open the

way. You are a very alien creature, Dixon. Only by the power I wrested from that being which assaulted me can I perceive you at all, and your mind is a chaos to me. What spell have you cast over my chosen priestess, so that she no longer obeys me?"

"Have you never heard of love?" demanded Dixon aloud.

The query faded into the thick darkness without an echo, and a profound stillness followed in its wake. He stood in the blind dark and utter silence, clutching his love, waiting. Out of that quiet the god-voice came at last:

"Love"—in a musing murmur. "Love—no! there is no such thing in all my universe. What is it?"

Dixon stood helpless, mutely trying to frame an answer. For who can define love? He groped for the thought-forms, and very stumblingly he tried to explain, knowing as he did so that it was as much for the benefit of her he held in his arms as for the god, because although she loved, she could not know the meaning of love, or what it meant to him. When he had ceased, the silence fell again heavily.

At last IL said: "So—the reigning principle of your own system and dimension. I understand that much. But there is no such thing here. Why should it concern you? Love is a thing between the two sexes of your own race. This priestess of mine is of another sex than those you understand. There can be no such thing as this love between you."

"Yet I saw her first in the form of a woman," said Dixon. "And I love her."

"You love the image."

"At first it may be that I did. But now—no; there's much more of it than that. We may be alien to the very atoms. Our minds may be alien, and all our thoughts, and even our souls. But, after all, alien though we are, that alienage is of superficial things. Stripped down to the barest elemental

beginning, we have one kinship—we share life. We are individually alive, animate, free-willed. Somewhere at the very core of our beings is the one vital spark of life, which in the last analysis is *self*, and with that one spark we love each other."

The deepest silence fell again when he had ended—a silence of the innermost brain.

Out of it at last IL said: "And you, my priestess? What do you say? Do you love him?"

Dixon felt the shape in his arms shudder uncontrollably. She—he could not think of her as "it"—stood in the very presence of her god, heard him address her in the black blindness of his presence, and the awe and terror of it was almost enough to shake her brain. But after a moment she answered in a small, faltering murmur, the very ghost of a reply, and in some curious mode of speech which was neither vocal nor entirely thought-transfer:

"I—I do not know that word, O mighty IL. I know only that there is no living for me outside his presence. I would have betrayed your godhead to free me, so that I might die in his way of death, and meet him again beyond—if there can be any beyond for us. I would do all this again without any hesitation if the choice was given me. If this is what you call love—yes; I love him."

"He is," said IL, "a creature of another race and world and dimension. You have seen his real form, and you know."

"I do not understand that," said the priestess in a surer voice. "I know nothing except that I cannot—will not live without him. It is not his body I—love, nor do I know what it is which commands me so. I know only that I do love him."

"And I you," said Dixon. It was a very strange sensation to be addressing her thus, from brain to brain. "The

sight of you was dreadful to me, and I know how I must have looked to you. But the shock of that sight has taught me something. I know, now. The shape you wear and the shape you seemed to wear before I saw you in reality are both illusions, both no more than garments which clothe that—that living, vital entity which is yourself—the real you. And your body does not matter to me now, for I know that it is no more than a mirage.”

“Yes,” she murmured. “Yes, I understand. You are right. The bodies do not matter now. It goes so much deeper than that.”

“And what,” broke in the voice of IL, “is your solution of this problem?”

IT WAS DIXON who broke the silence that fell in mute answer to the query: “There can be no such thing as union for us anywhere in life. In death, perhaps—but I do not know. Do you?”

“No,” said IL surprisingly.

“You—you do not? You—a god?”

“No. I have taken these beings who worship me back into the flame. The energy which was theirs in life supports me—but something escapes. I do not know what. Something too intangible even for me to guess at. No—I am a god, and I do not know what comes after death.”

Dixon pondered that for a long while. There was an implication in it somewhere which gave him hope, but his brain was so dazed he could not grasp it. At last the light broke, and he said joyfully: “Then—why, then you can-

not keep us apart! We can die, and be free.”

“Yes. I have no hold over you. Even if I would wreak vengeance upon you for your part in my betrayal, I could not. For death will release you into—I do not know what. But it will be release.”

Dixon swallowed hard. Half doubts and hesitations crowded his mind, but he heard his own voice saying steadily: “Will you do that for us—release us?”

In the silence as he waited for an answer he was trying to realize that he stood on the threshold of death—trying to understand—his mind probing ahead eagerly for the answer which might lie beyond. And in the timeless moment he waited he was very sure—for whatever lay ahead could not be extinction and surely not separation. This was the beginning—surely it could not end so soon, unfulfilled, all the questions unanswered.

No; this love which linked them, two beings so alien, could not flicker out with their lives. It was too great—too splendid, far too strong. He was no longer uncertain, no longer afraid, and hope began to torment him exquisitely. What lay beyond? What vast existences? What starry adventures, together? Almost impatiently he poised on the brink of death.

Through this IL’s voice spoke with a vast, passionless calm. “Die, then,” said IL.

For an instant the darkness lay unbroken about them. Then a little flicker ran indescribably through it. The air shook for a breathless moment.

And IL was alone.

OUTCASTS OF THE UNIVERSE—an outstanding story by Guy Wernham—in the November issue.

DIMENSION of the

by

R. F. Starzl CONQUERED

WE HAD DECIDED among ourselves that this story never should be told, but the governor, by appointing a commission to investigate the Simeon affair, has made it impossible for us to abide by that decision.

First, let me say at once that Simeon is not insane, and he never was insane. Had we even the slightest suspicion of his insanity, or of a hoax, we would have laughed and left him to his harmless amusements. But Simeon is sane, and he proved that he was on unquestionably scientific ground. Because he was absolutely sane, and possessed a powerful mind that made no mistakes, we had him committed to a private asylum for lunatics.

We committed him, you understand, because we knew he was sane, and we had to put him some place where he could not carry out his threat. One couldn't have him put in prison, but an asylum—how easy! High-handed? Extra-legal? Of course! But wait till you know our reasons!

Gerald P. Simeon was, as the newspapers have so often pointed out, a brilliant scientist, a physical research worker par excellence. He was barely thirty years old at the time of his great discovery—a slim, dynamic young man. Vital force fairly radiated from him. It was evident in his luxuriant dark hair, his strong, even teeth, his lean face and square jaw. He might well have been a supersalesman, or a musician, but science was his hobby, electricity his diversion, and mathematics his daily diet.

One day he called me on the telephone. He said:

"Doc, I want you to come up to the college right away—my private laboratory. Hurry up, because I'm not going to wait long."

"O. K.," I said, and telling my office girl to have the patients wait, I drove to the college on the hill as fast as I could.

SIMEON led me into the laboratory, locking the door carefully. It was about the kind of room you'd expect to find in the possession of a man for whom every phase of science holds interest. The walls all around were lined with benches, some of which held chemical apparatus, others electrical. In one corner was a small lathe with numerous appliances, constituting a complete machine shop. All the shades were tightly drawn, shutting out the daylight.

But in the middle of the room, under the glaring light of a one-hundred-watt bulb under a green reflector, was the obvious center of interest. It stood on a massive table, this apparatus of Simeon's. At first glance it looked something like a powerful radio transmitter. At any rate, it had inductances, condensers, and resistors of standard makes.

I looked in vain, however, for the usual vacuum tubes. Seemingly in their place was one very large glass bulb of a design utterly strange to me. It was about four feet high, so that the top of it was higher than my head. Try as I may, I cannot say what the shape of that bulb was. It seemed to be constantly shifting, eluding, at one moment



It would be wrong to say that it was human, though in appearance it resembled a man more than a gorilla. Towering over the tiny houses, it stood there stupidly before us.

all angular and in the next a mass of irregular curves.

Besides Simeon, there were two other men around the table. I recognized "Red" Mann, an expert electrician and radio designer, and Wilbur DePree, inventor of the DePree chromatic television lamp.

Simeon was tremendously excited.

"Gentlemen," he began, without preliminaries, "I have invited you here to witness the first communication with

beings in the fourth dimension—living, thinking beings like ourselves, whose thought processes are so much like our own, who are as intelligent as we are in——"

"Fourth dimension?" Red asked somewhat dubiously.

"You mean you're going to try to go into the fourth dimension?" DePree asked. "You'll go alone then—not me!"

"No; nor can I bring them into our world, as yet. But I will. I have the

formula worked out," Simeon promised confidently. "So far, I've only managed to talk to them—one of them."

"Talk to one of them!" I exclaimed. "Does he speak English?"

"No," said Simeon. "He does not talk at all. I have a little hook-up here that receives his thought-waves, through this tesseract tube"—pointing to the giant glass bulb of elusive shape—"and that device transposes the thoughts into English. I can talk into the microphone, and the machine transposes my words back into thought-waves, which are received by my correspondent."

"Through that funny-shaped tube?"

"Through the tesseract tube. See, here's the thought-transposer."

His long, sensitive fingers fondled a device that somewhat resembled a well-known type of dictaphone. But under the conventional base was a glass case filled with an array of delicate electrical apparatus, the function of which I had not—and still have not—the slightest idea. It stood on the table and was connected to the central apparatus by three wires that were insulated with glass beads.

At Simeon's request, Mann and DePree now checked over the wiring and testified that there was no evidence of fraud. Then DePree complied with Simeon's further request and hooked up a new televisior set, fresh from the factory. At last everything was ready.

"I will now let my correspondent in the fourth dimension tell you what we have done so far."

Simeon threw a switch, and a low humming softly filled the room. Only the televisior set remained dark, being controlled by a separate switch.

SUDDENLY a dry crackling came from the dynamic speaker on the table, and a voice spoke. It was a queer, mechanical voice, devoid of feeling or emotion—a most eerie voice. But it spoke

in perfect English, with precise enunciation:

"Greeting to my friend. Are you there?"

"I am here," Simeon answered, "and my friends are here. Have you built the television set as I instructed you?"

"It is built and ready," answered the uncanny voice. "I and my associates have it ready, and we are eager to get the directions for building the other machine you promised."

"I shall give you that soon," Simeon answered. "To-day I want you to tell my friends of yourself."

"I shall begin at the time when we were still in your world, and this state that you call the fourth-dimensional was unknown to us. It was many, many centuries ago, millions of years, when came the great etheric strain that threw us, and the fourth-dimensional counterpart of what you call your Earth, into the plane of existence in which we now live. That is, to your perception, we live in an alien plane. But to us, you are the ones that are unreal. You understand that?"

"Yes, yes!"

"Perhaps it was a vortex in the ether, caused by the destruction of some too-great sun, destroyed by its own gravity, as hinted by your Sir James Jeans that you mentioned. But it happened, and suddenly there was a counterpart of your own Earth, with all its inhabitants, in what you call the fourth dimension.

"But that was unthinkable long ago. And ever since we have continued our separate existence. You have told me how out of the simple, undeveloped primates of your Earth there rose certain superior forms, and from these arose still others, always on an ascending scale of intelligence, until now your own species dominates all of your Earth.

"So it has been with us, and we have, by means of our superior intelligence, completely conquered our planet. But

lately we have been closely pressed by an inferior form of life. It has greater strength and a form of low cunning that makes it dangerous. We have subjugated those enemies, but we fear them. I have told the council of my communication with you, and they ask that you now give us the plans for the death-making inventions your race has made. For we have fashioned none of these, relying, until now, solely on our own strength and cunning."

"Say, what's the idea?" Red Mann barked, half inclined to be angry. "Cooking up this phony broadcast!"

"It isn't phony," Simeon insisted. "You'll see, when I turn on the television."

In a few seconds the scanning disk was whirring. We looked at the screen expectantly, but saw only a chaotic whirl of colored specks.

"All right?" Simeon spoke anxiously into the transmitter.

"First I'll show you a picture of our subjects, the dangerous brutes we fear, and——"

The voice broke off. The colors swirled angrily on the screen, and suddenly we saw a scene from the fourth dimension. We seemed to be on the edge of a little city. There were orderly, paved streets, neat hemispherical houses, each in its little walled garden. Of the inhabitants we saw nothing.

But back of the village there was a huge, vague shape, coming through a dense forest of tall, bamboolike grasses that swayed violently. The shape broke through, and there it was, in its terrifying enormity, towering above the little houses.

IT WOULD be wrong to say that it was human. True, in general appearance it resembled a man more than a gorilla, though its hide was dark and shaggy. Perhaps it was the absence of ferocity and a glimmering of cowed intelligence in the large bovine eyes, but

I felt an unaccountable sympathy for this gigantic menace to Earth's fourth-dimensional twin. Still, I could not suppress a shudder when I looked at the comparatively tiny round houses. One kick from that great, calloused foot——

"There's its driver, on its head," came the voice through the interdimensional thought-transposer. "Few of us can handle them, look——"

High up on that formidable, shaggy head, we could see a tiny figure. We could see the head bobbing up and down, probably with the violent motion of the driver's body as he prodded his mount. Without doubt he was having trouble with it. The giant beast-man had dropped a long pole he was dragging, and the dull eyes were rolling dangerously. It happened suddenly.

The giant slapped sharply at his head. For a second he looked stupidly at the red splotch on his thumb, then turned and ran back into the grass forest.

The precise mechanical voice gave no evidence of agitation whatever. Yet it was not hard to imagine the panic back of the words:

"That is the way they do. More and more they do that. We believe the sounds they make are a form of speech, and they seem to communicate with one another. Help us! Help us! Give me now the plans for the machines that make death."

Slowly DePree's doubts had vanished, but his caution had come to the front. "Before you do that, G. P., let's have a look at your friend."

"Sure!" said Simeon. He spoke into the transmitter: "We want to see you. Focus your lenses."

"In a short time," came the mechanical voice. "I shall set the controls inside, then come out of my house."

The image of one of the little houses shifted, grew until it covered almost all of the screen. We could see now that it was woven of fibers, but it was finished, not with mud, but with a bril-

liant red, lacquerlike material. It was not as primitive as we had at first thought.

"My word!" Mann exclaimed, leaping back.

For the thing that had come out of the house was not human, as we all had expected, but a wasp. A wasp different from any on Earth, as was to be expected, but a wasp—with an enormous, intelligent head, and cruel, curved stinger. We now knew what that tiny figure on the giant's head had been wielding so ruthlessly. And it was not a giant, but probably of normal human size, seeming gigantic only in comparison with its tiny insect oppressor.

Only Simeon, in his scientific abstraction, did not share the shock we all felt.

"Look what evolution has done!" he exclaimed. "Look at that fellow! The master of his world! The same start as his third-dimensional brothers, and he's made himself master of a planet."

"Not quite master," I remarked dryly. "Looks as if his human slaves were getting about ready to swat him!"

"Not after I give them a few details on modern warfare," Simeon countered. "Those ignorant savages won't have a chance."

"They may be ignorant, but they're human, or nearly so," I objected. "I'll not be a party to helping a lot of insects against them."

"Nobody asked you to," Simeon returned coldly. "Anyway, the insects are undoubtedly more intelligent. They are the fittest and entitled to supremacy."

WELL, that's how it started. While DePree and I sat on the too-brilliant scientist, Mann carefully dismantled the apparatus, managing to break the tesseract tube.

Naturally Simeon was terribly angry. The way he knocked us around before we could subdue him was painful. But this helped to substantiate our contention that he was insane—and to railroad him to the asylum. Oh, I admit he was sane—and still is sane. We took that course because we thought it best.

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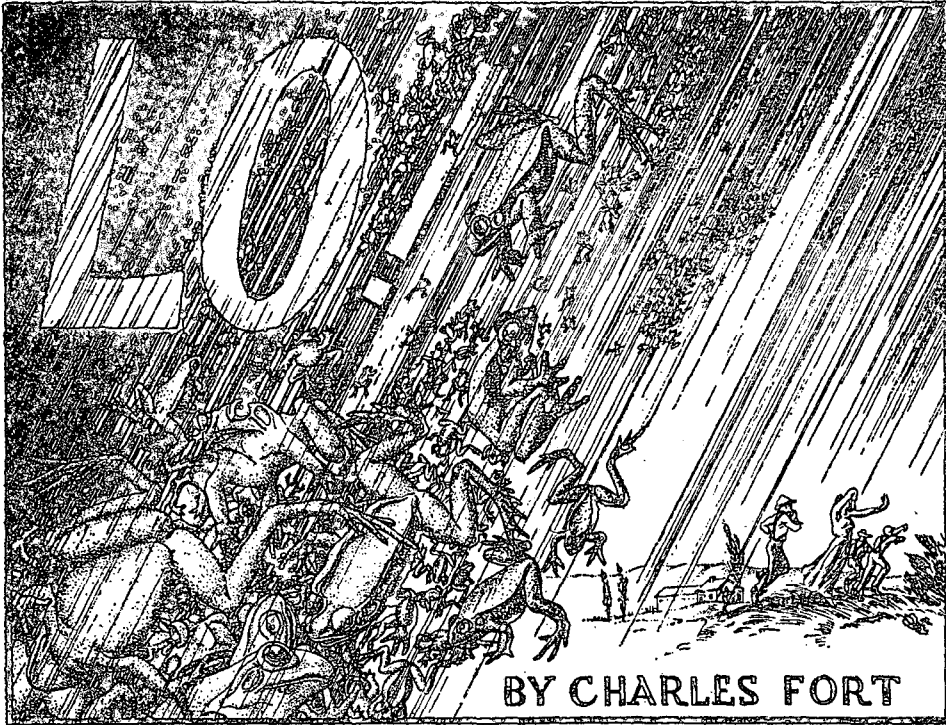
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PART SEVEN

II.

WITH A SURF and a glare,
this earth quaked a picture.

Or, in the monistic sense,
there was, in Peru, a catastrophe that
was a hideous and magnificent emotion.

Snow that was white on the peaks of
mountains—cataclysm—peaks struck off
—avalanches of snow, glaring red, gush-
ing in jugular spouts from the decap-
tations. Forests lashed with whips of
fire, from which shot out sparks that
were birds and running animals.

August 13, 1868—people in Peru,
rushing from their falling houses, stum-
bling in violations of streets, seeing the
heavens afire, crying: "El Vulcan!"

Away back in the year 1868, scientific
impudence had not let loose, and there
was no scientific clown to laugh off a
blazing sky, with a story of lights in
horse cars. The mystery of this occur-
rence is in the belief in Peru that there
was, somewhere, at this time, a volcanic
eruption.

Cities were flung in the sea. The sea
rushed back upon ruins. It doubled
all ordinary catastrophes by piling the
wrecks of ships upon the ruins of
houses. Fields poured over cliffs into
the Bay of Arica.

Upon August 19th, there was another
violent quake, and again there was a
glare in the sky. Both times there was

no accounting for such a spectacle except by thinking that there had been an eruption in Peru.

Sometimes volcanic eruptions upon this earth shine, at a distance, like stars. It will be my acceptance that new stars are new volcanic eruptions in Starland. For a description of a terrestrial eruption that shone like a star, see the *Amer. Jour. Sci.*, 2-21-144. See a description, in the *New York Times*, September 23, 1872, of an eruption of Mauna Loa, which far away looked starlike.

At twelve thirty p. m., September 4th, appeared something that has often been seen at Naples, when Vesuvius has discharged. A dense, mountainlike cloud appeared, in the western sky, at Callao, Peru. The earth heaved with violence equal to that of August 13th.

New York Tribune, October 7th—that in the southwestern sky was seen a star.

It is my expression that this was the star that broke Peru.

Night of February 4th, 1872—another glare in the sky—that the constellation Orion was afire—that a tragedy upon this earth began in the sky, with a spectacle that excited peoples of this earth, from Norway to South Africa—but that, underlying tragedies written by human beings, or wrought in sky and lands, are the same conventions, and that Organic Drama is no more likely to let catastrophe come, without preceding phenomena that may be interpreted as warnings, than would stagecraft of this earth permit final calamity, without indications of its approach.

That a surprise was preceded by a warning that was perhaps of the magnitude of a burning of all the forests of North America—testimony of the sun and the moon to coming destruction—announcements that were issued in blazes—showers of gleaming proclamations—brilliant and long-enduring advertisement—

But that mind upon this earth was

brutalized with dogmas—and that scientific wisemen, stupefied by a creed, presided over a slaughter, or were surprised when came the long and brilliantly advertised.

This night of February 4th, 1872—a blaze in the constellation Orion. From centers of alarm upon this earth there was telegraphing. City called upon city. People thought that a neighboring community was burning. In the West Indies, island called upon island. In each island, the glare in the sky was thought to come from a volcanic eruption in some other island. At Moncalieri, Italy, an earthquake, or a response in this earth to cataclysm somewhere else, was recorded by seismographs. There may have been special relation with the ground, in Italy.

With this glare, which was considered auroral, because there was no other way of conventionally explaining it, though auroras never have been satisfactorily explained, came meteors. Denza recorded them, as seen in Italy, and noting the seeming relation to the glare, explained that the seeming relation was only a coincidence. That's got to be thought by everybody who opposes all that this book stands for. If it was not a coincidence, the meteors came to this earth from wherever the glare was. If the glare was in the constellation Orion, Orion may be no farther from Italy than is San Francisco.

Upon the night of February 22nd, another glare was seen in the sky, and "by coincidence," it was identical in all respects, except magnitude, with the glare of the 4th. "By coincidence" again meteors appeared. See *Comptes Rendus*, 74-641.

Five days after this second seeming eruption in Orion, dust fell from the sky, at Cosenza, Italy (*C. R.*, 74-826).

The meteors that were seen at the time of the first glare were extraordinary. They appeared only in the zone of Italy. As seen with the glare,

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in India, they are told of in the Allaha-bad *Pioneer Mail*, February 12th, and the *Bombay Gazette*, February 19th. See other records of ours of zone-phenomena.

Sixteen days after the second glare in Orion, reddish yellow dust fell in Sicily, and continued to fall the second day, and fell in Italy.

Trembling trillions—or a panic of immensities—and the twinkles of the stars are the winks of proximities—and our data are squeezing supposed remoteness into familiarities—because if from a constellational eruption, dust drifted to this earth in a few weeks, it did not drift trillions of miles.

But was this dust a discharge from a volcano?

It was volcanic dust, according to Professor Silvestri. See the *Jour. Chem. Soc. London*, 25-1083. Professor Silvestri thought that it must have come from an eruption somewhere in South America. But my notes upon phenomena of this year 1872 are especially numerous, and I have no record of any eruption in South America, or anywhere else—upon this earth—to which could be attributed this discharge.

For records of a stream of events that then started flowing, see *Comptes Rendus*, vols. 74, 75, and *Les Mondes*, vol. 28. In Italy, upon the first of April, began successions of "auroral" lights and volleys of meteors. Night of April 7-8—many meteors, at Mondovi, Italy. Solar and lunar haloes, which may, or may not, be attributed to the presence of volcanic dusts, were seen in Italy, April 6th, 7th, and 8th. Two days later, Vesuvius became active, but there were only minor eruptions.

There was uneasiness in Italy. But it was told, in Naples, that the wisemen were watching Vesuvius. Because of the slight eruptions, some of the peasants on the slopes began to move. These were a few of the untrustful ones: the

others believed, when the wisemen said that there was no reason for alarm. Night after night, while this volcano in Italy was rumbling, meteors came to the skies of Italy. There is no findable record that they so came anywhere else. They came down to this one part of this earth, as if this earth were stationary.

April 19th—the third arrival of dust—volumes of dust, of unknown origin, fell from the sky, in Italy.

There was alarm. The sounds of Vesuvius were louder, but a quiet fall of dust, if from the unknown, spreads an alarm of its own.

The wisemen continued to study Vesuvius. They paid no more attention to arrivals of dusts and meteors in the sky of a land where a volcano was rumbling, than to arrivals of song birds or of tourists, in Italy. Their assurances that there was no reason for alarm, founded only upon their local observations, held back upon the slopes of the volcano all but a few disbelievers—

The 20th of April—

Eruption of Vesuvius.

The people of Naples groped in the streets, each in a hellish geometry of his own, each seeing in a circle, a few yards in diameter, and hearing in one dominant roar, no minor sounds more than a few yards away. Streams of refugees were stumbling into the streets of Naples. People groped in circles, into which were thrust hands, holding up images, or clutching loot. Fragments of sounds in the one dominant roar—geometricity in bewilderment—or circles in a fog, and something dominant, and everything else crippled. The flitting of feet, shoulders, bandaged heads—cries to the saints—profanity of somebody who didn't give a damn for Vesuvius—legs of a corpse, carried by invisibles—prayers to God, and jokers screeching false alarms that the lava was coming.

A blast from the volcano cleared away smoke and fog. High on Vesuvius—a zigzag streak of fire. It was a stream

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of lava that looked fixed in the sky. With ceaseless thunder, it shone like lightning—a bolt that was pinned to a mountain.

Glares that were followed by darkness—in an avalanche of bounding rocks and stumbling people, no fugitive knew one passing bulk from another, crashing rocks and screaming women going by in silence, in the one dominant roar of the volcano. When it was dark, there were showers of fire, and then in the glares, came down dark falls of burning cinders. In brilliant illuminations, black rains burned the running peasants.

In at least one mind, or quasi-mind, or whatever we think are minds, upon this earth, there was awareness of more than coincidence between flows of meteors in Italy and a volcanic eruption in Italy. In *Comptes Rendus*, 74-1183, M. Silberman tells of the meteors in Italy, and the eruption of Vesuvius, and gives his opinion that there was relation. It was a past generation's momentary suspicion. The record is brief. There was no discussion. To this day, no conventional scientist will admit that there is relation. But, if there is, there is also another relation. That is between his dogmas and the slaughters of people.

In orthodox terms of a moving earth crossing orbits of meteor streams, to which any one part of this earth, such as the Italian part, could have no especial exposure to meteors so moving, there is no explanation of the repeated arrivals of meteors, especially, or exclusively, in Italy, except this—

Night after night after night—

Coincidence after coincidence after coincidence.

Our unorthodox expression is that it was because this earth is stationary.

According to data that have been disregarded about sixty years, it may be that there was a teleportative, or electrolytic, current between a volcano of this earth and a stellar volcano. If we think that a volcano in a land that we

call the constellation Orion interacted with a volcano in Italy—as Vesuvius and Etna often interact—there must be new thoughts upon the distance of Orion.

The one point that every orthodox astronomer would contest, or deride—because its acceptance would be followed by acceptance of this book as a whole—is that the glare that seemed to be in Orion, was in Orion.

These are the data for thinking that the glare that seemed to be in Orion, was in Orion, which can not be vastly far away:

The glare in the sky, early in the evening of February 4th, 1872, was west of Orion, as if cast by reflection from an eruption below the horizon. But, when Orion appeared in the east, the glare was in Orion, and it remained in Orion. At Paris, all beams of light came from Orion, after eight p. m. (*Comptes Rendus*, 74-385). In England—in Orion (*Symons' Met. Mag.*, 7-1). In South Africa, the point from which all beams diverged was in Orion (*Cape Argus*, February 10th). An account by Professor A. C. Twining, of observations in the United States, is published in the *Amer. Jour. Sci.*, 3-3-273. This "remarkable fact," as Professor Twining calls it, but without attempting to explain, is noted—that, from quarter past seven o'clock, in the evening, until quarter past ten, though Orion had moved one eighth of its whole revolution, the light remained in Orion.

There is no conventional explanation to oppose us. My expression is that the glare so remained in Orion, because it was in Orion. Anybody who thinks that the glare was somewhere between this earth and the constellation will have to account not only for the fixedness of it in a moving constellation, but for its absence of parallax, as seen in places as far apart as South Africa and the United States.

III.

HORSES ERECT in a blizzard of frogs—and the patter of worms on umbrellas. The hum of lady birds in England—the twang of a swarm of Americans, at Templemore, Ireland. The appearance of Cagliostro—the appearance of Professor Einstein's theories. A policeman dumps a wild man into a sack—and there is alarm upon all continents of this earth, because of a blaze in a constellation—

That all are related, because all are phenomena of one, organic existence—just as, upon August 26th, 1883, diverse occurrences were related, because all were reactions to something in common.

August 26th, 1883—people in Texas excitedly discussing a supposed war in Mexico—young men in Victoria, Australia, watching a snowstorm, the first time in their lives—crowds of Chinamen hammering on gongs—staggering sailors in a vessel, off the Cape of Good Hope.

I have data for thinking that, somewhere beyond this earth, and not enormously far away, there was, before these occurrences, an eruption. About August 10th, of this year 1883, at various places, appeared "afterglows" that can not be traced to terrestrial eruptions. Upon the 13th of August, an "afterglow" was reported from Indiana, and, ten days later, from California (*Monthly Weather Review*, 1883-289). Upon the 21st and 22nd, "afterglows" appeared in South Africa (*Knowledge*, 5-418).

There was no known eruption upon this earth, by which to explain these atmospheric effects, but there was a disturbance upon this earth, and the circumstances were similar to those in Italy, in April, 1872. The volcano Krakatoa, in Java, was in a state of minor activity. It was not considered alarming.

Upon the 25th of August, a corre-

spondent to the *Perth* (Western Australia) *Inquirer*—see *Nature*, 29-388—was traveling far inland, in Western Australia. He was astonished to see ashes falling from the sky, continuing to fall, all afternoon. If this material came from regions external to this earth, it came down, hour after hour, as if to a point upon a stationary earth. An attempt to explain was that there may have been an eruption in some little-known part of Australia. In Australian newspapers, there is no mention of an eruption in Australia, at this time; and in my own records, there is only one instance, and that one doubtful, of an eruption in Australia, at any time. I am not here including New Zealand. There was, at this time, no eruption in New Zealand.

Krakatoa was in a state of minor activity. Wisemen from Batavia, localizing, like the wisemen at Vesuvius, in April, 1872, were studying only Krakatoa. Considered as a thing in itself, out of relation with anything else, conditions here were not alarming. The natives were told that there was no danger—and natives—Columbia University, or east side, west side, New York City—or Java—believe what the wisemen tell them.

April 19th, 1872—the dust of unknown origin that fell from the sky—it preceded, by one day, the eruption of Vesuvius.

August 25th, 1883—the ashes of unknown origin that fell from the sky—

August 26th—Krakatoa exploded. It was one of this world's biggest noises, and surrounding mountains doffed their summits. Or, like a graduating class at Annapolis, they fired off their peaks, which came down, as new reefs in the ocean. The bombs that shot out were like meteors. The mountain was a stationary meteor-radiant, and shot out *Krakatoatids*. Had the winds gone upward, the new meteor stream would have been also of houses and cattle and

people. The explosion shattered shores so that all charts were useless.

Krakatoa paused.

Early in the morning of the 27th, the Straits of Sunda went up. The units of its slaughters were villages. Ninety-five villages went up, in waves that were ninety feet high, one hundred feet high, one hundred and twenty feet high. From the ninety-five villages, tens of thousands of humans were recruited, and they went dead into warring confusions. In the gigantic waves, armies of the dead were flung upon each other. There was no more knowledge of what it was all about than in many other battles.

By volcanic dust, the sun was dimmed so that unseasonable coldness followed. In places in Victoria, Australia, where for twenty-five years snow had not been seen, snow fell. I'd like to have this especially noted—that at places far away, the volcanic bombs were mistaken for meteors—or they were meteors. An account of volcanic bombs from Krakatoa, which looked like "shooting stars," as seen from a vessel, about ninety miles from the volcano, is published in the *Cape Times* (Weekly Edition), October 3rd, 1883. At Foochow, China, the glare in the sky was like an aurora borealis. For this record, which is important to us, see the *Rept. Krakatoa Committee*, Roy. Soc., p. 269. People in Texas heard sounds, as if of a battle. Off the Cape of Good Hope, vessels lurched in waves from the catastrophe.

It is my expression that the explosion of Krakatoa was stimulated by, or was a reaction to, an eruption in a land of stars that is not enormously far away. Afterglows that were seen after August 26th were attributed to Krakatoa—

That the preceding afterglows and the fall of ashes were of materials that drifted to this earth, from an eruption somewhere else, passing over a distance that can not be considered vast, in a few weeks, or a few days—

And that the light of a volcanic eruption somewhere in the sky was seen by people of this earth.

See the *Perth Inquirer*, October 3rd—a correspondent tells of several observations, early in September, upon a brilliant light that had been seen in the sky, near the sun. There was a beam of light from it, and the observers thought that it was a comet. This appearance is described as conspicuous. If so, it was seen at no observatory in Australia.

The circumstance that no professional astronomer in Australia saw this brilliant light brings up, in any normally respectful mind, doubt that there was such a light. But this appearance in the sky is the central datum of our expression, and I am going to make acceptable that, even though it was reported only by amateurs, there was at this time a conspicuous new appearance in the heavens. New Zealand—silence in the observatories—but reports from amateurs, upon a "very large" light in the sky. See the *New Zealand Times*, September 20th, 1883. That a yarn in Australia could quickly spread to New Zealand? Ceylon—an unknown light that was seen in the sky of Ceylon, about a week after the eruption of Krakatoa (*Madras Athenaeum*, September 22nd). *Straits Times*, October 13th—an appearance like a comet, in the sky, at Samarung, where the natives and the Chinese were terrified, and burned incense for protection from it. England—observation, upon the night of August 28th, by Captain Noble, a well-known amateur astronomer. Whatever the professionals of Australia and New Zealand were doing, the professionals of England were doing likewise, if doing nothing is about the same wherever it's done. In *Knowledge*, 4-173, Captain Noble tells of a sight in the heavens that he describes as "like a new and most glorious comet." An amateur in Liverpool saw it. *Knowledge*, 4-207—

an object that looked like the planet Jupiter, with a beam from it. However, one professional astronomer did report something. Professor Swift, at Rochester, N. Y., saw, nights of September 11th and 13th, an object that was supposed by him to be a comet, but if so, it was not seen again (*Observatory*, 6-343).

There was a beam of light from this object: so it was thought to be a comet. See coming data upon beams of light that have associated with new stars.

The first observation upon a new light in the sky was two nights after the explosion of Krakatoa. It may have been shining, conspicuous but unseen, at the time of the eruption.

The matter of the supposed velocity of light, or the hustle of visibility, comes up in the mind of a conventionalist. But, if in the past, scientists have determined the velocity of light to be whatever suited their theories, I feel free for any view that I consider suitable. Look it up, and find that once upon a time the alleged velocity of light agreed with supposed distances in this supposed solar system, and that when changed theories required changes in these distances, the velocity of light was cut down to agree with the new supposed distances. In the kindergarten of science, the more or less intellectual infants who have made these experiments have prattled anything that the childlike astronomers have wanted them to prattle. A conventionalist would say that, even if there were a new star, at a time of terrestrial catastrophe, light of it would not be seen upon this earth, until years later. My expression is that so close to this earth are the stars that when a new star appears, or erupts, effects of it are observable upon this earth, and that, whether because of closeness, or because there is no velocity of light, it is seen immediately—or is seeable immediately—if amateurs happen to be looking.

Upon the night of August 6th, 1885, while all the professional astronomers of this earth were attending to whatever may be professional astronomical duties, a clergyman made an astronomical discovery. The Reverend S. H. Saxby looked up at a new star, in the nebula of Andromeda, and he saw it.

There is much of uppishness to anybody who says, or announces, that of all cults his cult is *the* aristocrat. But most of his upward looking is likely to be at the supposed altitude of himself. All over this earth, professional astronomers were looking up at themselves. In England and Ireland, three amateurs, besides the Reverend S. H. Saxby, being probably of only ordinary conceit, looked up beyond themselves, and saw the new star. For the records, see the *English Mechanic*, of this period. Whatever the professional astronomers of the United States were looking up at, they saw nothing new. But somebody, in the U. S. A., did see the new star. *Sidereal Messenger*, 4-246—an amateur in Red Wing, Minnesota. It was not until August 31st that upness in an observatory related to the stars. Finally a professional astronomer either looked up, or woke up; or waking up, looked up; or looking up, woke up.

The whole nebula of Andromeda shone with the light of the new star. Several observers thought that the newly illuminated nebula was a comet (*Observatory*, 8-330). From the light of the new star the whole formation lighted up, like a little West Indian island, at a time of an eruption in it. According to conventionalists, this nebula is 60 x 60 x 24 x 365 x 8 x 186,000 miles in diameter, and light from a new star, central in it, would occupy four years in traversing the whole. But as if because this nebula may not be so much as 60 x 186,000 inches in diameter, no appreciable time was occupied, and the whole formation lighted up at once.

Other indications—whatever we think

we mean by "indications"—that the nebula of Andromeda is close to this earth:

Sweden—and it was reported that wild fowl began to migrate, at the earliest date (August 16th) ever recorded in Sweden——

Flap of duck's wings—and the twinkles of a star—the star and the bird stammered a little story that may some day be vibrated by motors, oscillating back and forth from Vega to Canopus.

So the birds began to fly.

It was because of unseasonable coldness in Sweden. Unseasonable coldness is a phenomenon of this earth's volcanic eruptions. It is attributed to the shutting off of sunlight by volcanic dusts. The temperature was lower, in Sweden, than ever before recorded, in the middle of August (*Nature*, 32-427). Upon August 31st, the new star reached maximum brilliance, and upon this date the temperature was the lowest that it had ever been known to be, in the last of August, in Scotland (*Nature*, 32-495).

All very well—except that unusual coldness may be explained in various ways, having nothing to do with volcanoes——

See *Nature*, 32-466, 625—that nine days after the first observation upon the new star in Andromeda, an afterglow was seen in Sweden. There is no findable record of a volcanic eruption, upon this earth, to which this phenomenon could be attributed. September 3rd, 5th, 6th—afterglows appeared in England. These effects continued to be seen in Sweden, until the middle of September.

I don't know whether these data are enough to jolt our whole existence into a new epoch, or not. From what I know of the velocity of thought, I should say not.

If a volcanic discharge did drift from

Andromeda to Sweden, it came from a northern constellation to a northern part of this earth, as if to a part of this earth that is nearest to a northern constellation. But, if Andromeda were trillions of miles away, no part of this earth could be appreciably nearer than any other part, to the constellation. If repeating afterglows, in Sweden, were phenomena of repeating arrivals of dust, from outer space, they so repeated in the sky of one part of this earth because this earth is stationary.

I note that I have overlooked the new star in Cygnus, late in the year 1876. Perhaps it is because this star was discovered by a professional astronomer that I neglected it. However, I shall have material for some malicious comments. Upon the night of November 24th, 1876, Dr. Schmidt, of the Athens Observatory, saw, in the constellation Cygnus, a new star. It was about third magnitude, and increased to about second. Over all the Observatories of this earth, this new star was shining magnificently, but it was not until December 9th that any other astronomer saw it. It was seen, in England, upon the 9th, because, upon the 9th news reached England of Dr. Schmidt's discovery. I note the matter of possible overclouding of the sky in all other parts of this earth, at this time. I note that, between the dates of November 24th and December 9th, there were eight favorable nights, in England.

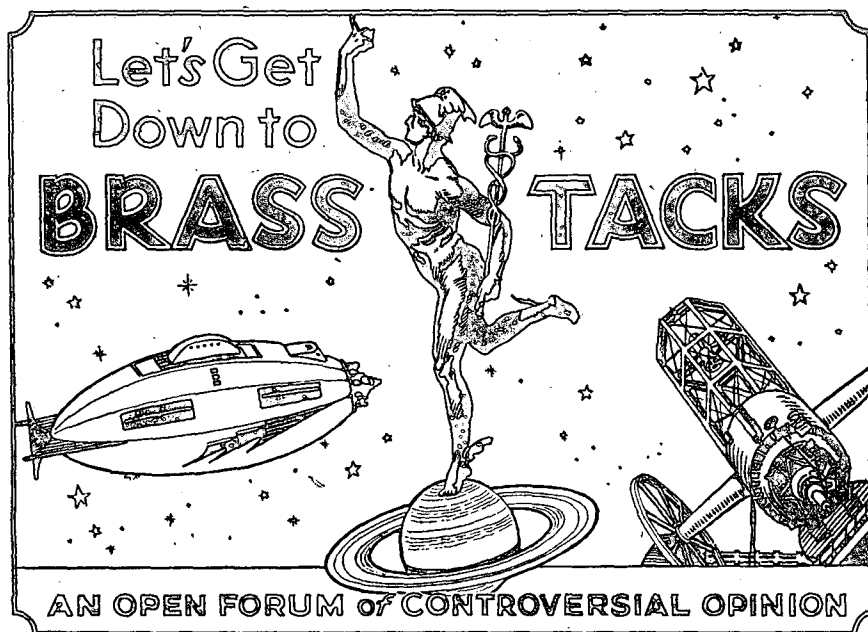
It so happens that I have record of what one English astronomer was doing, in this period. Upon the night of November 25th, he was looking up at the sky.

Meteoric observations are conventionalities.

New stars are unconventionalities.

See *Nature*, December 21st, 1876—this night, this astronomer observed meteors.

To be concluded next month.



Concerning Inflexure

Dear Editor:

This letter cannot be avoided, for there are certain matters that cannot be explained in the narrative of my story, but only in this didactic manner.

First let me say that I think *Inflexure* is the last thought-variant I shall attempt. It took me several months to write. Fortunately I was able to consult Bertram Pinsky, formerly unofficial adviser to the curator of astronomy in the Museum of Natural History, on the physical changes the condition I imagined would bring about. Between Pinsky and William Kay, both dabblers in probable fourth-dimensional physics and endowed with imagination for a hundred men, I managed to keep sane.

Nevertheless, there is much that had to be omitted, that makes interesting reading. As I see it, telescopic eyesight in a fourth-dimensional world is unfounded; or rather, I believe it is more due to the fact that I could not follow their reasoning of such phenomena. The absence of stars visible in the west, and the brilliance of those in the east can easily be understood. Also the means by which the Solar System received its impetus and consequent thrust into the fourth dimension can be imagined, if one accepts the condition of perfect elasticity of our Sun and the interloping star.

If, on the fourth-dimensional Earth, you turned your body toward the north or south poles, and faced your head to the east, your body would be clearly visible, but your head would disappear from sight because it would have only two dimensions: length would be infinitely small. The horizon to the east would appear normal if you faced it; if you held a periscope before your eyes, you would see no horizon for the same reason that your head would disappear. I could not undertake to describe such conditions, nor would any other reasonably sane man. To a rocket, or the Moon, Earth would appear like a gigantic buzz-saw, with no appreciable edge. The matter of volition in changing from three dimensions to four smacks of fairy stories, I admit, but it is entirely reasonable.

I hope you do not object to the slight bits of irony in the story. This I believe to be the real realm of science-fiction.—Clyde Crane Campbell.

Frank K. Kelly Defends Crater 17

Dear Editor:

A number of letters printed in *Brass Tacks* in your August issue mentioned my yarn, *Crater 17, Near Tycho*, most of them very kindly. Among them, however, I found a communication from a Mr. La Lone, of Norfolk, New York, which offers several stimulating criticisms to which I feel some reply should be made.

With a reader so alert and so keenly concerned with the perfection of details, any magazine is to be congratulated. Mr. La Lone is a member of that sharp-eyed group of individuals, insistently demanding accuracy in even the smallest matters, to whom all writers, whether they admit it or not, owe a real debt of gratitude.

Mr. La Lone has three concise criticisms to put forward. The first has to do with the speed of the *Isis*. Mr. La Lone is a little impatient with me; what he seems to say is, that ship of yours must have been pretty slow stuff, and I'm used to faster travel, being an accustomed reader of science-fiction, wherein miraculous speeds are attained offhand without discomfort and very often without explanation. Mr. La Lone finds that a journey of four years from Mars to Earth would probably be a bit tedious. Admitted: it certainly would be. But then the whole idea around which *Crater 17* was built had to do with the difficulties which pioneering space adventurers would encounter. I kept my speeds low all through the story in an attempt to achieve what Mr. La Lone believes I failed to achieve: play out the tale on a substantial stage. No one has yet demonstrated that men, human beings, can stand an acceleration of even a thousand miles per hour and still live. A number of experiments in this field of acceleration effects have been conducted, with confused and contradictory results. So I tried to be careful along that line. I'm not sure but what even the very moderate speeds I mentioned (moderate indeed for science-fiction) wouldn't have been fatal to my space men. However, in writing a story you've got to stretch things a bit somewhere or you'll have nothing to write about.

Now about fuel and supplies: both could be in concentrated form, so could the cargo. You see, Mr. La Lone, it wasn't fuel that caused me to hold down on the speed of the *Isis*; I could

easily have invented some X metal or something of that sort which would have given power to spare. But I was worried about that acceleration. All clear now?

With regard to your second criticism, Mr. La Lone: score one for you. You're very much in the right and I'm very much in the wrong. I try to hammer out my stuff slowly and carefully, and I did revise *Crater 17, Near Tycho* a number of times before sending it to market, but in going over the last draft I seem to have missed the little error in simple arithmetic. That happens sometimes, when you go over a story so often that you develop a sort of blind spot for even the most obvious mistakes. Yet after all, Mr. La Lone, suppose we substitute "sixty thousand miles gone" for "thirty-six thousand miles gone": is that so terribly vital to the meaning of the story? I don't think it is. I slipped on a detail, and I apologize humbly for it, still I don't believe it has much to do with the merits or demerits of the story as a whole.

The third criticism, concerning the space suits: that idea of having Gar and Jorgensen wear the suits even though they were deliberately going to refuse the protection such garments offered against the rigors of space, was just an effort of mine toward depicting a little bit of sentimentality on the part of a couple of space men. It was more suggested than stated, but what I wanted to indicate was this: Gar and Jorgensen wished to go to their deaths defiantly wearing the badge of those who traveled in the void and faced annihilation with a grin. I attempted all through the story to suggest things in that manner, to create an atmosphere rather than bluntly describe conditions and characters with flat declarative sentences. The declarative style is necessary in writing for undiscerning readers, but would be rather condescending on the part of any author writing for an audience with the intelligence level of Astounding's followers.—Frank K. Kelly, Kansas City, Mo.

Merritt Writes One Story A Year, Contracted For Elsewhere; Lovecraft Writes Weird Fiction; England—Not Writing Science-fiction; Campbell, Starting A Serial In December; Breuer, Not Writing.

Dear Editor:

I believe that there are now just two major ideas which still need to be included in Astounding's program. The incorporation of these things should make the reading and hence the publication of all other purely science-fiction magazines absolutely unnecessary.

In the first place, never discontinue your present policy of using several illustrators. No one artist could even begin to compete with your present staff. I would suggest that all readers give their opinions on various illustrations so that a final summary would indicate just what each artist is best able to do. Knowing this, the division of work would be easy and each man would be doing the work best suited to him. Thus Dold could do pictures consisting primarily of persons and interiors of mechanical and electrical chambers such as spaceship control rooms, Marchioni (I don't think he is so hot) could do the chemical laboratory work, and Brown the grander exterior scenes. Of course there would be quite a little overlapping, but the resultant variety would be refreshing, to say the least. Incidentally, I know Brown has illustrated purely scientific magazines such as *Everyday Engineering*.

In the second place, get ALL the well-known science-fiction authors to write for us. I know this is a big order. But if you can get the big guns like Merritt, Lovecraft, England, Cummings, Campbell, Keller, Breuer—oh, you know, the whole darn bunch, not to mention some of those who have already appeared in "our mag," to contribute at least once a year, I fail to see why it would be necessary for any fan to read

any other magazine. To make myself a bit plainer, I am going to list all the things I can think of that make Astounding, potentially, at least, the sole holder of the field.

1. Street & Smith can afford to pay authors more for their stories than any other science-fiction magazine in existence to-day.

2. Therefore Astounding can attract the better authors and demand better efforts from them.

3. Therefore the stories in Astounding are bound to be better than those in any other magazine, at least on the average.

4. Astounding contains more pages than any other publication of science-fiction.

5. Therefore "our mag" can give quantity with quality.

6. Astounding costs five cents less than any other science-fiction magazine, yet its stories are superior as regards quality and quantity.

7. Astounding gives its readers a squarer deal both as regards the general policy and its readers' column.

8. Astounding has a staff of illustrators rather than a single illustrator.

9. Therefore the illustrations in "our mag" provide more variety and cannot become monotonous or cut-and-dried as they have in other magazines.

10. Astounding gives us a feature like *Lo!*, which, although I personally do not like it, at least paves the way for better, more interesting and more educational superscientific articles.

Now I ask you, fans, what do we want to bother with these other half-baked magazines for? "Our mag" has got what it takes and more. If ALL the big boys wrote for us we wouldn't look at the other magazines. We'd just let them play second fiddle all by their lonesome.—William S. Sykora, Divisional Head, ICSC.

Thank You, Mr. Ackerman

Dear Editor:

Upon close examination, the space ship of the cover for *The Skylark Of Valeron*—You can stop holding your breath; I'm not going to say one more porthole shows up on it than's described in the story, or that I detect a scratch on its ultra-impenetrable surface! No, it seems almost photographically real. Wisely done in steel-gray, it is a splendid portrait of a great void vessel. And the opening illustration for the Dr. Smith serial!—the Skylark characters have never been done as Elliot Dold is doing them! Dold is wonderful; he puts power and bigness on paper, and places his characters in attitudes alive. And I think he is the logical artist to have selected for this climaxing space narration.

I wondered about your new type at first, and how it was going to look, and if it was going to be a bit harder to read. Keeping the same number of pages, with the addition of words, I expected the type would grow smaller. But any such change is undetectable. Only, the type seems a little lighter; and that is no complaint at all.

A good war story, *Stratosphere Towers*.

A fine sketch, in a large sense of the word, Frank B. Long's *The Last Men*.

Dr. Conklin, *Pacifist* was something quite different from *Short-Wave Castle*.—Calvin Peregy deviated—quite—from the pattern of writing in the latter story. Though I was glad to read Dr. Conklin, I would rather see serious works by Mr. Peregy. This is no criticism of his humor; I merely enjoyed the happenings of the first Dr. Conklin story so well that I would rather see further stories of him written in the same vein.

Aground In Space seemed obvious, but was not so obvious after all. An interesting story.

Legion Of Space is, I think, the most amazingly adventuresome science story ever written. My sensations actually are ones of astoundment when reading of these yeomen of space and each new peril confronting them, and I am pleased to believe that they actually do meet and overcome all these amazing obstacles. Jack William-

son has written some story, here!—and what's more, created characters.

Lo! offers this month its most interesting installment, and several of the *funniest* moments I've had lately. For one, when after those several paragraphs on the disappearance of Ambrose Bierce, Mr. Fort remarked that at last an understandable explanation of his disappearance had come up: "It was said that Bierce criticized Villa"—I nearly disappeared myself, from an internal burst. That was, what I mean, funny.

Surprisingly, there was a bad story in the August issue, though. One I considered bad, at least; and not only that, but terrible and awful. Newer readers may have found nothing wrong with *Beyond The Spectrum*, but it made me very ill. A terror tale with one of the most mummified of "plots." I should have thought the paper it was printed on would have yellowed with age. It will surprise me if a lot of the old guard don't write in about it. How any one would give the invisible marauding monsters idea another thought for writing up, is beyond me. A sorrowful spoil, *Beyond The Spectrum*, though of course the excellent general contents make up for all, and Arthur Zagat has written other good tales.

Your most splendid stories of the past few issues have been, I believe: *The Wrecker*, a swell story and the best I have read by Raymond Z. Gallun; *The Nerveless Man*, highly interesting; *A Matter Of Size*, a neatly justifying and ever attention-holding novelette, in which readers have already thoroughly voiced approval; *Rebirth*, which will long be a great story; *He From Procyon*; *Redmask*; *The Blind- ing Shadows*. That's right, I suppose, why not list them all? The above really were above even the other good ones, though.

Was in a book store the other day and saw a couple of back numbers of *Astounding*: the *Rebirth* and *Legion Of Space* issues. Thought about a couple of friends I could send them to to interest them in the magazine, so picked them up. I noticed later, on the cover of the *Legion* one, it said: "To Ann from Jane." Then, inside the other, I found another little note, this time on a slip of paper: "To Nancy from Jane." Jane lives in Los Angeles, I take it, as that is where I bought the copies. I think it's rather interesting. Evidently, even our science-fiction misses are helping out in your "Introduce a friend to *Astounding*" campaign. I suppose the January, March, and other issues were given to other potential "scientifeminists."

Well, I just thought I'd relate that little incident of sign of cooperation with you to you. Now, you'll pardon me, as I'm going to mail Ann and Nancy's copies—"From Jane"—to Jack and George from—Forrest J. Ackerman, 530 Staples Avenue, San Francisco, California.

Taking All Of Us To Task—Constructively.

Dear Editor:

Although I have been an avid, though spasmodic reader of *Astounding Stories* since its original appearance, this is my first contribution to Brass Tacks. Before I go further let me add my plaudits to those of the multitude which believes *Astounding Stories* to be far better than before the interregnum of oblivion.

But my message is not one of either praise or criticism of the magazine or its editor. My message is to the readers themselves through the kindly medium of Brass Tacks. And it is this:

I enjoy, usually, readers' sections, especially in magazines which, like *Astounding Stories*, are preëminent in a particular field, but I wish to appeal to the contributors of Brass Tacks in a sincere effort to make the section more worthwhile. Let me explain.

Brass Tacks seems, now, merely a heterogeneous collection of panegyrics, seasoned with a few criticisms. About 95 per cent of the letters are taking up perfectly good space saying the same thing in different words. Brass Tacks is printed for us science-fiction fans to read, and

I doubt very much whether there are many who, like myself, find pleasure in hearing John Doe say (in a great many more words) "I like *Astounding Stories*. Brown is a good artist. Dold is nearly as good. I like this, I don't like that," etc., ad infinitum. Brass Tacks is too valuable a space to fill with an exhibition of individual's likes and dislikes in detail.

I appreciate that you, kind editor, are anxious to know the details which will help you to determine the future course of the magazine. Such letters help you, but there is no reason why the readers cannot write letters which will be of more interest to the readers of Brass Tacks.

Hasn't *Astounding Stories* any readers who are sufficiently interested in science-fiction to give us some good, honest, knock-down-and-drag-out discussions about scientific ideas? I don't care whether Richard Roe liked the story "Such and such" or not. But if he wants to write in and say that he thinks space travel, as explained by "So and so" is all wet, and give his reasons why, I'll turn to Brass Tacks first off.

My apologies to Dr. E. C. Scott. His letter is one of the type I like to see. It deserves the first place you have given it in the August issue. But following it are just 20 others which say nothing in a great many words. If only 5 per cent of the letters you receive have anything interesting to say, then there's something wrong with your readers.

My suggestion is this. In order to avoid an influx of letters which have nothing to offer but personal likes and dislikes, but still keep you, the editor, supplied with this information, why not devote half a page each issue (with advertising on the reverse side) to a voting blank, upon which you list each story in the issue, and let the readers grade them, A, B, C, etc., leaving a generous space for remarks.

And now, I'll try and pave the way myself with a matter which has been rambling in my bosom for some time. To wit:

A great many science-fiction authors bring into their stories extraordinary weapons and devices, such as space ships traveling at many speeds, sub-atomic condensers, geodynes, neutronic pistols, and such. Such devices are absolutely essential to any tale of future science, and I heartily applaud the authors for severing the chains which bind some minds to earthly, familiar things—but I could bear to know more about these fiendish weapons and superscientific machines, how they work, and all the details. A tale wherein the hero dissolves the villain with a protonic blast cannot claim to be science-fiction if the science part of it consists only of the name of the weapon. Why is it a "protonic blast" and not something else? Let the author have some definite instrument in his mind when he uses such a word. Otherwise such a tale becomes, not science-fiction at all, but plain fiction on a grandiloquent scale, and if we are not to hold authors to reasonable explanations then who knows to what flights of fancy they may not go. The ultimate result can be nothing but absolutely impossible things.

For a concrete illustration, let me reiterate Dr. Scott's criticism of Wandrei's *Colossus*. The very story is built upon a foundation of science that is fundamentally unsound. And the result is a well-written tale with a clever plot—spoiled, for me at least, by being utterly impossible under any conditions in the way the author takes.

My idea of good science-fiction is a tale, well-written, with an adventurous type of plot, involving science in ramifications as yet unknown, but not impossible. An illusion of reality is essential, so that the reader feels that such a series of events *could* happen, somewhere, sometime in the future. Such tales as *Colossus* transgress this doctrine in that such a thing could never happen—except, perhaps, in a fourth-dimensional world subject to natural laws different from ours (which, by the way, may suggest a thought-variant for some author. But I warn him not to attempt it unless he knows what he is about.) But I insist upon possibility, and the illusion of reality. And I believe more

careful and complete explanations in a scientific vein would help in this respect. Williamson does fairly well, though not as well as I should like. I should appreciate knowing whether other readers are not of somewhat the same mind.

It should impose no great or insurmountable mental obstacle upon our authors to support their imagination by logic. I, myself, have what I believe a reasonable explanation of how space ships could travel at beyond the speed of light, in spite of Einstein and his infinity of mass, and his time-space continuum, that no author has thought of yet. No, I shall not divulge it, for when I have an acceptable plot, I shall write a tale myself, and submit it to your estimable and overburdened self.

Frankly, I think interplanetary tales have the best claim to the title of science-fiction, and that tales seem more real when their setting is far away from the familiar Earth. Somehow, out in space, strange things and alien beings seem less unbelievable.

But I have already taken up more space than you should allow me in Brass Tacks.

Now, readers, let's have some really constructive and instructive letters!—E. B. Brown, 138 State Street, Newburyport, Mass.

A Cruising Reader

Dear Editor:

For the past five years I have read science-fiction magazines. I don't remember when Astounding Stories first came out, but I do know it has always been my favorite since its birth, and whenever I could get it.

Thanks to the publishers I've been able to pick it up in almost every part of the world I have ever visited. I was overjoyed about a month ago when I saw Astounding Stories on a news stand in London. Just when I had expected dull and lonesome moments, after working hours, on the trip back to the States.

Many times Astounding Stories has appeared like a friendly moon, to lighten and provide companionship, during many otherwise lonely hours on cruises that are monotonously long. My luck is still with me for I was able to obtain the August edition in Honolulu this morning, which is going to make it swell for me this trip.

Getting down to Brass Tacks, I don't believe in continual grubbing and criticisms against an author or illustrator just because he does not represent a picture of what the individual reader wants. I figure that Astounding Stories would not be as enjoyable as it is, if it were 4.0. You see, it takes stories of different ratings to keep it up on top (where it is, by the way).

If any magazine were perfect, it would be boring after a few editions. It takes a few weaknesses, here and there, to keep the pages turning. I don't expect this letter to discourage grumblers; that would be impossible. There always will be some one who does not like this or that about a certain illustrator or author.

There used to be, in our magazine, a run of stories about a certain space avenger who was fast with his guns and who wore his hair bobbed in front to cover some scar. I don't know the author's name, but if you know who and what I am talking about I surely wish you could fix it so we'll see more stories about that man.

I'm going to turn to an old pal, Astounding Stories. Be seeing you!—K. C. Scoville, U. S. S. New Orleans, Div. 4, Care of Postmaster, New York, N. Y.

"95%"

Dear Editor:

I am a new reader of Astounding Stories, as I began with the July issue. I was out of science-fiction stories so I went to purchase another magazine. It was really the cover of the July issue which attracted my attention. Since the cover illustration of the other was so dull-looking and Astounding so attractive, I thought I would purchase it. Seeing that it had a more reasonable price, it was all the better.

I find the *Skylark Of Valerón* a very fine story so far as I have read it.

I wish that you would get Paul for some of your illustrations as he is a fine illustrator of machinery and space ships and cities of the future, and of the planets.

In closing let me say that your magazine is 95 per cent good. If you add science questions and answers it will be perfect.—Francis J. Litz, 235 Brown Street, Rochester, N. Y.

Spectrum Was-Written September, '33

Dear Editor:

I was remarkably impressed by the August issue. It is undeniably the best I have read yet. Pediculosity in this issue was to all intents and purposes the infinitesimal quintessence of nihilism (?). I am more than satisfied. *Aground In Space* was magnificent. *Warriors Of Eternity*, superb, except for the fact that the authors had, just had, to put in it the element of adventure, thus lessening the value of the story. *The Last Men* was a spicily new treatment of an old idea. As to *Beyond The Spectrum*, I read an almost exactly similar one in the December, 1933, issue of a rival magazine. Well, Mr. Zagat?

Dr. Conklin, *Pacifist*, satirically fine. *Stratosphere Towers*, good, but not nearly so good as the average in Astounding. Williamson gets better and better.

I have not started to read the *Skylark* story yet, nor shall I until I am in possession of all the installments. How many will there be, Ed? Incidentally, the printing of this story is an unheard-of thing in the history of science-fiction. That is what I mean. One very good mag prints two *Skylark* stories, which help to make it good. Then when the long-awaited sequel arrives, another mag snatches it right out of their hands and prints it. This action was certainly a sign of the power of Astounding. Veritably a *coup d'état*.

The first installment of *Lo!* was hardly prepossessing. However, it got better as it went along. It brings forth some truly astounding ideas. It reminds me of a definition of the Quantum Theory (or some other dizzy theory) I once heard, to wit: Somewhere in some great unknown place there is some tremendous thing transpiring which we know almost nothing about. Much better than mathematics. *Lo!* causes one to think.—Philip Allison Turner, Hiram, Ohio.

A Neighbor Of Dr. Lu-Mie

Dear Editor:

I have been greatly enjoying the after effects of Mr. Wandrei's outstanding novel, *Colossus*, in your Brass Tacks department. In your July issue Mr. Kaletsky vigorously defends Mr. Alburger with one hand, and takes Mr. Wandrei to task with the other. More power to all three of them! They make Brass Tacks something to think about.

I was delighted to hear of one of the neighboring termites, Dr. Lu-Mie, making the front page. However, I hope none of his Choco brothers grows over half an inch in length or digs his tunnels very large in diameter. I would certainly hate to be kidnapped by them and cheat some deserving alligator out of a meal. The story was interesting, but the war whoops, shrieks, and shrill battle cries of the fighting ants and termites still rattle in my bean. Now I am from Missouri, and so I caught a "Conga" or large jungle ant about an inch in length. Did he open his mouth and shout for help? No! He opened his jaws about half an inch and—I learned why the natives avoid his brethren as if they were bushmasters.

"Ed," you deserve a few pats on the back. Your thought-variants, Brass Tacks, and increased size and quality make the magazine something to write home about. I would like to see more letters in Brass Tacks either discussing a story or scientific theory, or advancing a pet brain child. New ideas often hook up with

other ideas and something concrete is the result. Some old Greek, probably after having a fight with his wife, claimed that there is nothing new under the sun. On the other hand Barnum said, "There is one born every minute."

I am somewhat isolated in a great South American jungle and would appreciate correspondence with any one really interested in science or nature.—T. O. Seiberling, Andagoya, via Buenaventura, Republic of Colombia, South America.

Wanted

Dear Editor:

Will somebody please offer to sell to me at their own price any back numbers of the *Skylark* series? If so, write to Stanley Kosow, 628 Marcy Avenue, Brooklyn, New York.

"Smith, Campbell"—Present!

Dear Editor:

Since the first issue of the first magazine of science-fiction way back in 1926, I did not miss a copy until about a year ago when the stories became utterly nonsensical and a waste of time to read. The stories that first made a success of this type of story were becoming scarcer and many weird stories began to appear. Stories of the type of *The Skylark*, *The Moon Pool*, *The Nth Man* became rarer.

When *Astounding Stories* first appeared I became immediately prejudiced against it. The other magazine, despite its title, had some appearance of dignity. The old *Astounding* had a cheap paper and a cheap binding. The stories were more than weird; they were rather the absolutely impossible type than true science-fiction.

When readers write in to you I notice that they seem to feel it incumbent upon them to praise both the old and the new magazine, and proclaim its superiority. Personally, I have often seen the same writers in discussions columns in all three magazines praise each magazine, each time lauding its superiority. I, however, write this letter because I am deeply interested in science-fiction, and seeing by your editorials and footnotes that you welcome constructive criticism, I offer my contribution in the best of spirit, believing that I am right.

I think that I am as well qualified to offer suggestions as the next fellow in view of the fact that I have read all three magazines from their inception, and also from the fact that I belonged to several science-fiction clubs. The kind of reader, it seems to me, who enjoys stories of the type of *The Skylark Of Space* (which necessitates some slight scientific knowledge and imagination) is usually ashamed to be seen totting home a small, brilliantly illustrated magazine with a title suggestive of weird or ghost stories. Therefore, I believe a larger, better-grade magazine would lend more dignity to *Astounding Stories* and be much more popular.

Never have more than one serial.

You must have a quarterly. Some of the greatest stories I ever read have appeared in quarterlies, and since you publish only one serial per issue, you must necessarily pass up many fine stories, which may spoil your program. I rate the five best authors of science-fiction in this order: Edward Elmer Smith, John W. Campbell, Jr., John Taine, Clark Ashton Smith, Garret Smith.—Sam Sobol, 612 West 144th Street, New York City.

A Reward!

Dear Editor:

Until to-day I was tormented by an awful problem. Although your oldest rival has eliminated itself from the running automatically, it has been nip and tuck between you and the only other good magazine in the field for months. The August issue of *Astounding* settled it—for thirty days, anyway.

Excluding *Skylark Of Valeron* (which couldn't be anything but super-super), the stories ranged: (1) *Warriors Of Eternity*, a grand story with all the literary ideas and scientific trimmings that could possibly be desired. (2) *The Last Men* and *Dr. Conklin, Pacifist* tied for second place; the first for its beautifully-phrased tragedy, the second for its superb humor. *The Legion Of Space* is coming along quite suitably, although the end seems obvious. Maybe he'll surprise us, though.

Lo! is unbelievably interesting. The others are two thirds partly read, and one third partly liked.

Even that doesn't prevent this, the August issue, from being awarded "plenty-plenty-plus" (equivalent to an A in final examinations).

By the way, I could—almost—have implanted a kiss on the editorial brow to reward (?) you for asserting that *Valeron* is not to be reprinted, for if there's one thing I'm violent about, it's reprints.

And now for some suggestions. (Why the—er—expletive? You must have known they would be aired sooner or later, sir.) There are loads of questions, as well as answerable suggestions in *Brass Tacks*, so I think you really ought to answer a few letters each month. Besides, *Brass Tacks* isn't long enough by half, yet. (Meaning that I have hopes.)—Virginia Kidd, 119 Oakdale Avenue, Catonsville, Md.

By Composing-Room Count, The Old Type Ran 630 Words A Page, Average; The New Runs 680 A Page. Average Reading Pages Per Issue, 147.

Dear Editor:

Well, the August issue came out at last! The first part of *The Skylark Of Valeron* appeared as promised, but where are the extra words? To be sure, the type is changed, but it is no different from that used in several other Street & Smith magazines. By actual count there is the same number of words per page as when the old type was used.

At any rate, we got the *Skylark*, and I read the first part twice. It's going to be all you said and more. You can expect to be shot any time now. Judging from the first part of the *Skylark*, it's going to be a six- or seven-parter. On second thought, I'll postpone the shooting and give you a chance to combine installments so as to make it a four-parter.

Don't ever let Nat Schachner go. He's getting better 'n' better 'n' better. *Stratosphere Towers!* What a story!

I wasn't so keen on the August cover. I think the first illustration would have made a better cover.—Jack Darrow, 4224 N. Sawyer Avenue, Chicago, Illinois.

Battle Of The Century

Dear Editor:

The Skylark Of Valeron proves that the adventures of Seaton and Crane have not died. I had thought that *Skylark Three* was immortal and could never be repeated again in the entire history of science-fiction. I was wrong. Dr. Smith has demonstrated that he is an author of the highest merit that can be attained. However, *The Skylark Of Valeron* should have been published complete in one issue. Barring this slight misjudgment, the August issue was the best so far.

And now—Flash! Flash! Flash!

The battle of the century!

We take you now to the ringside of the world's greatest bout.

The fight between *Astounding Stories* and *Kid Reader*!

The gladiators are entering the ring amid the cheers and boos of the vast audience.

Kid Reader looks confident. However, he is a trifle tense.

Astounding Stories, the favorite, is wearing an expansive smile.

There goes the bell!

The contestants advance to the center of the ring.

Kid Reader launches the first blow.

"When are you going to cut those edges smooth?"

Astounding Stories wavers, but retaliates.

"You cut 'em, I'm tired!"

That was a wicked blow; Kid Reader is staggering.

In sheer desperation he shoots his strongest attack right into Astounding's middle.

"What about a quarterly?"

The blow bounces harmlessly off Astounding's strong guard.

Astounding lets loose a powerful haymaker!

"I'll bite, what?"

Kid Reader is down! Down for the count! 8-9-10!

"He's out!"

"Astounding Stories wins!"

"Kid Reader never had a chance."

Well, that's all there is, folks. Signing off.—Irving Kosow, 3415 Fulton Street, Brooklyn, New York.

"Teutonophobia"? Schachner Praised Only The Scientists

Dear Editor:

Welcome *Skyllark Of Valeron*! Its acquisition is a feather in your cap—and a pleasure to us readers. There is no doubt in my mind that this story will be the greatest serial and the best liked which Astounding Stories has ever published.

You are doing a great many fine things with the magazine. There has been a fairly constant improvement, both in appearance and content. However, I believe you made a mistake in publishing *Lo!* In spite of my attempt to be open-minded and to overlook the insane style, I can see nothing of much merit in it. Surely only the hypercredulous could read with enjoyment such a confused muddle!

Another bone I have to pick with you is over this would-be scientific-fiction writer, Fearn. Mr. Editor, can't you see how absolutely infantile are his rantings? His stories are full of mistakes in logic and science. (If desired I can specify a number.)

Turning to nicer things: Schachner always turns out a dandy story—although it is too bad that he has to run his "Teutonophobia" in the ground so.

Speaking of artists—while Dold is fine—why don't you heed the imploring multitude who want Paul and Wesso back? They are the artists supreme.

Give us more stories like *The Skylark Of Valeron* is going to be, and Astounding Stories will be the *only* science-fiction magazine.—Richard Dodson, 507 S. Davis, Kirksville, Missouri.

A First Letter

Dear Editor:

Congratulations on your splendid work of recent months. I have been reading Astounding Stories, old and new, since the March issue, 1930, except the first four or five issues since the magazine came back from the dead. Since the "rejuvenation," the magazine has been greatly improved.

Brown's cover for the August issue proves him to be unsurpassed in this field.

At the top of a letter criticizing *Crater 17*, *Near Tycho*, I noticed your insert "Why not four years?" Even granting such patience for the voyagers, you have overlooked the fact that a speed of 25,000 m. p. h. is necessary to gain freedom from the earth's gravitational field. *The Skylark Of Valeron* promises to be the best story ever published in the magazine. Keep up the good work!

In my five years' experience as a reader of science-fiction, this is my first letter to a maga-

zine.—Allan C. Garretson, Redmon Park, Syracuse, Indiana.

Request

Dear Editor:

Congratulations! Reason? *The Skylark Of Valeron*! Off with a rocketing start. The first installment was all I had hoped for and that's saying a lot. Hope the remaining installments are as good!

And now as to how I rank the complete stories.

1. *Warriors Of Eternity*, by Carl Buchanan and Dr. Arch Carr, scored a home run with me! I hope that they continue to write such good stories for Astounding Stories.

2. *Stratosphere Towers* by the one and only Nat Schachner scored a triple with me. He almost made a home run.

And now to my main purpose in writing this letter. Will some good reader who has Astounding Stories back numbers for sale please write me, stating the condition and price of the magazines? Address all letters to—Preston Wells, Thomasville Avenue, Pocahontas, Arkansas.

We Think The Space Needed For Editorial Comment Is Better Used By Letters

Dear Editor:

The August issue of Astounding Stories was a wow! Of course, this is only characteristic of your magazine. In my opinion, it has reached the highest degree of perfection that I have seen in a good while. Especially good was *Warriors Of Eternity*, by Carl Buchanan and Dr. Arch Carr. Give us more of these fertile brains. Zagat and Woodbury were also good.

Your new serial, *The Skylark Of Valeron*, is certainly starting out fine. Unlike many serials, it holds your interest from the very first. The other serial, *Legion Of Space*, is also superb, as are most of Williamson's stories.

Now for some suggestions. Why not comment on each letter in Brass Tacks? Or at least those which need it. This would help out a great deal. A science department answering questions from the readers would be very desirable.—James L. Russell, 1126 Clement Avenue, Charlotte, North Carolina.

This Is Becoming Dangerous

Dear Editor:

Swell cover artists! Swell interior decorators! Swell authors! Swell stories! Swell department! All amounting to one thing—swell editor!

Two brickbats. First, too bad Astounding is a monthly. Second, serials. I love serials, but in a monthly, four installments are enough. Quoting Jack Darrow, "Mr. Editor, if you stretch this story to more than four parts (*Skyllark Of Valeron*), I'll shoot." Unquote. We'll shoot.—Red Miller, 87-78 Parsons Boulevard, Jamaica, New York.

A Comparison

Dear Editor:

This is my first letter to Brass Tacks and all I have for Astounding Stories is praise. It is the biggest and best science-fiction magazine on the news stand.

I am sixteen years of age now and have been reading the three main science-fiction magazines for two and a half years. Just before commencing this letter I compared Astounding Stories with a well-known contemporary magazine. The other magazine consists of 123 pages, 102 of which are purely fiction. Astounding has 160 pages, 142 pages of which are fiction. It actually contains more fiction than there are pages including ads in the other magazine. Be-

sides this, *Astounding* has its price five cents below the other.

Now a word about your stories. They are all excellent. As Winchell says, "Orchids to the thought-variant stories."

A noticeable feature of Brass Tacks when compared to similar columns in other magazines is the lack of brickbats or criticism of stories by the readers. This is present to a great extent in other magazines.

Now for a few suggestions, which always seem welcome. Please trim the cover and the edges of the magazine. It improves its appearance. Secondly, have a space of several lines below the letters in Brass Tacks in which you editors can answer questions and remarks made by readers. This at present is not sufficient. Then have only full-page illustrations of stories by artists Brown, Dold, Marchioni, and Wesso.

The Legion Of Space is good, but in too many installments.—Milton Kerner, Lismore, Minnesota.

A Theory And An Invitation

Dear Editor:

I have a theory of gravitation which I think would be interesting to *Astounding Stories'* readers.

When an object falls, two things really fall toward each other, the object and the earth. On the moon, objects fall more slowly. The reason is that the moon has less mass than the earth.

Therefore, if one of the two bodies that fall toward each other (the planet) has less mass, the fall is slower. Then, if the other object (the weight) has less mass, the fall is slower, also.

The speed of the fall is proportionate to the combined mass of the two objects. There is only a relatively small difference between the mass of the earth plus heavy object, and the earth and light object.

If the earth weighs a billion tons, and the light object weighs one pound, the heavy object one ton, the light object would fall $\frac{1,000,000,000}{1,000,000,001}$ as fast as the heavy one. The difference would not be perceptible.

Therefore, Galileo's experiments do not prove that a light object falls as fast as a heavy one.

I would like some readers to write to this magazine and tell their opinions of this theory.—Donald Franson, 3022 N. Kenneth Avenue, Chicago, Illinois.

Readers, Take A Bow

Dear Editor:

Congratulations! You have succeeded in obtaining the best story of the year; a story that every one has been waiting for, for a long time—*The Skylark Of Valeron*, by E. E. Smith, Ph. D.

Astounding Stories is the best science-fiction magazine that I have ever read. You have the editors of the other two magazines beat by a mile.

The first thing I read is Brass Tacks, because here is where you can get a great deal of information from other readers.—Frank Wojewoda, Water Mill, New York.

And Thank You!

Dear Editor:

Several years ago, I was in truth a raving maniac over science-fiction stories. I spent all my spare money buying up magazines dealing with them. In fact, I think I read every science-fiction magazine, except your own, *Astounding Stories*. Until some time ago, this mania had been keeping me busy, and then something began to happen to practically all these magazines. They became careless.

Cheap, uninteresting stories made their appearance and but rarely was there a story good enough to capture my intense interest.

Recently a friend of mine loaned me a copy of *Astounding Stories*, and to my intense en-

joyment, I got what I wanted. From that time on the craze has had me again.

I like your print, which is very easily read. I think that you should cut the front part of the magazine to a straight edge without the cover overlapping.

I was going to ask you to enlarge Brass Tacks, but I have noticed that you have posted your intention of doing so.

I think that you should have Elliot Dold do a cover.

Thanks a hundred times for publishing a magazine which has revived my interest so greatly.—Hyman Diger, 587 Dumont Avenue, Brooklyn, N. Y.

"Please, Please!"

Dear Editor:

This is my first letter to the new *Astounding Stories*. Nevertheless, I have been a fervent science-fiction fan for a long time.

I like your cover artist, H. V. Brown, very much. How Jack Darrow can ask for Wesso back with his mechanical-looking men and monstrous women is more than I can understand. Please, please never get him back.

Astounding is improving with every issue. Keep Donald Wandrei on the job, for his stories are great. Also, Stanton Coblenz and Murray Leinster.—Lyman Martin, 65 Howe Street, Marlboro, Massachusetts.

Has Any One?

Dear Editor:

Has any one of your readers copies of the magazines containing the previous *Skylark* stories, which he would be willing to dispose of to me?—D. Nelke, 1053 86th Street, Brooklyn, New York.

Mr. Leinster Has Made An Addict

Dear Editor:

Darn your magazine, anyway! I used to be able to take my science-fiction or leave it alone, but now, since reading *Sidewise In Time*, I have become a hopeless addict of *Astounding Stories*.—Wallace Bartholomew, 1503 Smith Tower, Seattle, Washington.

On Receipt Of 20c A Copy, They Will Be Forwarded To You

Dear Editor:

I have just completed the August issue of *Astounding Stories* and I think it is the best science-fiction magazine on the market.

The Skylark Of Valeron starts off fine.

The best short story in the August issue was *The Last Men*, by Frank Delknap Long, Jr.

Your covers are excellent, but Brown is not so hot on the interior work.

Can you help me get the following issues of *Astounding Stories*?

1933—October, November, and December.

1934—January, February, March, April, and May.—Thurlo Pitts, Stonington, Maine.

Questions

Dear Editor:

Although I have been a steady reader of *Astounding Stories* for many years, it was only recently that I began saving copies.

Correspondents to the Brass Tacks department have in the past, and will continue in the future, to throw you orchids and scallions. Personally, I am quite content with your magazine. But remember, departments, covers, illustrations, and the likes are in themselves secondary to the stories.

I would appreciate response to the following questions:

1. When was *Astounding Stories* first published? [Jan., 1930.]

2. Has it always been a monthly? [Bi-monthly Aug. '32—March, '33.]
 3. Were the issues ever interrupted? [March, '33 to Oct., '33.]
 4. Was there ever a quarterly? [No.]
 5. Was the price always twenty cents? [Yes.]—Gilbert Cohn, Brooklyn, New York.

We-Can Believe It!

Dear Editor:

I am one of your young readers, even though I have been reading science-fiction for some time. I have read all three science-fiction magazines, but think Astounding Stories is the best.

Do you know science-fiction helps me in school? Because of it, I managed to get 90% in science the last two terms in school. I got SOME vocabulary from science-fiction.—Warren J. Woolsey, 449 16th Street, Brooklyn, New York.

For Sale—See Requests Elsewhere

Dear Editor:

I have a number of copies of science-fiction and weird magazines on hand, including many numbers three and four years old, which I should like to dispose of to any one wishing to buy them. Please write me for details.

I shall send with a plea that you relent and give us some of the best reprints, *The Moon Pool*, *The Blind Spot*, etc.—Joseph W. McCarthy, 14 Edgerly Road, Boston, Massachusetts.

"Moronic"!

Dear Editor:

The August issue! Expectation! Then disgust! *The Skylark Of Valeron* prattles out in a moronic way, and stops when it is getting good. Well, it's hard for a man who racked his brain writing *Skylark Of Space* to write another as good. It was fair, but not up to *Skylark* fame; but we will soon see. I will have to give the author credit for his unique way of synopsis. I despise "What has gone before," and anything like that.

Warriors Of Eternity was fine. Let's have more like it. *Stratosphere Towers* was a refreshingly different story, a big relief from the ordinary run.

Lo! is a dandy feature.—H. L. Wehrle, Jr., 854 Chester Road, Charleston, West Virginia.

Letters Wanted

Dear Editor:

I am writing to give my opinion of Astounding Stories. I have read all three science-fiction magazines, but since starting yours have dropped the others. The first issue I read was July, 1934, but I'm not going to miss a single issue from now on. I have made my dad a fan, also a friend of mine.

I'll welcome a letter any time, because I like to have some one with whom I can discuss science-fiction.—William Robb, 679 Broadway, Watervliet, New York.

And Again

Dear Editor:

I have read the old Astounding Stories and the reincarnation of it. That's what I said! Reincarnation. That is the only term which would describe it, because out of the old magazine has sprung a new being in the realm of science-fiction.

In the August issue, I liked *The Skylark Of Valeron*. It starts off swell. *Stratosphere Towers* was exciting, gripping, and a good guess into the future. *Warriors Of Eternity* was good. If those two new writers keep it up, they'll soon be at the top of the list.

I just wanted to show you that I am one person who thinks a great deal of your maga-

zine. I would like to correspond with some of the readers.—Alan J. Lenovsky, 200 Alhambra Street, San Francisco, California.

"The Greatest Writer"—We Disagree

Dear Editor:

I used to think that Astounding Stories was the poorest science-fiction magazine on the stands. I am beginning to change my mind now, in view of the recent trend of the magazine.

I have been severely disappointed in *The Skylark Of Valeron* as far as it has gone. It doesn't make sense; it is far too complicated for my simple mind. Dr. Smith's popularity does not lie in his writing, but in his style. Compared to the aforementioned *Skylark*, his first story was just a plain ordinary interplanetary adventure. To my mind, *The Skylark Of Space* was the finest story that has ever appeared in a science-fiction magazine. With all due respect to Dr. Smith, his other stories have been just so much tripe. After all, there is a limit to our imaginations.

Into the same category with Smith falls John W. Campbell, another fine writer.

It is my personal belief that the greatest writer of science-fiction is Otto W. Gail. Mr. Gail's stories are logical, interesting and humorous. Next would come Schossel and then Coblenz. Coblenz strives to raise his stories above mediocrity by injecting into them that important element of humor. His stories, whether plausible or not, at least are interesting.

In your August issue there are only three stories worthy of note. The best was *Beyond The Spectrum*, an unusually interesting story despite a rather poor conclusion. Then *The Skylark Of Valeron* and *Stratosphere Towers*. Mr. Schachner is a very much improved writer.

Your illustrations are extremely poor. I would suggest that you obtain the use of Morey's talents.

Once again, I see, the subject of reprints is cropping up. May I go on record as being decidedly against them. It is hardly fair to subject readers, who have already read the stories, to the necessity of reading them again. If you think it worth while, publish a quarterly of reprints.

One suggestion more. Why not have a short-story contest and publish the best story. Authors eliminated, of course. Sometimes some very fine ideas come to light through this.—Joseph Edelman, 60 East 103rd Street, New York City.

What Do They Look Like?

Dear Editor:

This is my first letter to your magazine. I had heard of the old Astounding but never read it, but when Fantasy Magazine started forecasting some of the stories that were to appear in Astounding, I just had to become a reader, and can't say that I have been disappointed.

The Legion Of Space, I think, is a fine story and just long enough to carry out the story properly. Shorts and novelettes are all right, but haven't got the narrative value of the longer stories.

Lo! is exceedingly interesting, instructive, and thought-stimulating, and in no way silly (Gertrude Hemken notwithstanding). In a letter headed "Theories Suggested By Lo" from a White Plains reader, he says: "I think a great many things Fort relates can be explained by natural forces. Mainly these showers of frogs, toads, and fishes he tells about so often. Undoubtedly waterspouts are the cause of most of them."

Undoubtedly they can be explained by natural forces, since there are no others; but what do salt-water frogs and toads look like?

An old gentleman of my acquaintance once told me that he had seen the ground on an island not far from here covered with small frogs and a yellow substance like sulphur after a thunderstorm in the night.

I'd like to see some stories by Cummings, Merritt, Dr. Keller, and Lovecraft.—C. J. Smith, Port Felix, N. S.

A Make-Up Suggestion

Dear Editor:

There are very few things that I can complain about. As far as I can see *Astounding Stories* is practically perfect. And that's saying a lot! Congratulations on the wonderful way you have followed the wishes of the readers by changing the illustrations. Dold is lead-off man, with H. V. Brown and Marchioni as variety. *This undeniably shows that Astounding Stories is the readers' magazine.*

The stories were great in the August issue, and that's not counting the serials.

The cover was colorful, but do you have to have just a picture of a space ship? It's all right for new readers, but the majority have seen enough space ships to use a different one every day for the rest of their lives. Why not have a new original cover that will make us gasp with wonder and delight? That's fair, isn't it?

There is but one suggestion I can make concerning the make-up of A. S. At present you have, just under the title of some stories, a line or two to introduce those stories. Now my suggestion is that to improve your make-up you should cut out these strips and place an editor's comment in its place. This comment could be placed in a box before, or fitted between the two columns of type, of certain or all stories. I ask you: wouldn't this improve A. S.? I know it would.

Brass Tacks is great; it's getting good 'n' lively. I especially enjoyed Elmer C. La Lone's letter. He presented some clear and thoughtful facts; that goes for Dr. E. C. Scott, too. I want to acknowledge Olton F. Wiggins's suggestion for smooth edges, which is to take the magazines to a printing shop where they can be trimmed. And my brother owns a printing shop! I wish to state that all of my magazines boast of smooth edges.

Bring on the quarterly and *Astounding* semi-monthly.—David A. Kyle, 22 Cottage Street, Monticello, New York.

"A New Era"

Dear Editor:

The August issue, in my opinion, heralded a new era in the development of *Astounding Stories*. Never before has there been, to my knowledge, such an extremely rapid rise in every way of a what is now a science-fiction magazine. The acquiring of such authors as Dr. E. E. Smith means something more than all the artists, rough edges, or any other minor improvements. The success of a magazine depends more upon the actual writing itself than all else. I do not say that small details should not be bothered about; on the contrary they are the things that a new reader notices most. I think that the present cover is a bit too gaudy—why not have a black margin around the edge, place the feature story titles at the bottom and not scrawled all over the page as they are now, put the pictures in the center and make it a smaller picture, and last but not least make the title larger and the NRA, August, 20c, etc., smaller. The background of the type could be of some light gray that would blend into the picture where it meets it. With a cover like this, *Astounding Stories* could be unmistakably identified not only as *Astounding Stories*, but as a magazine free from the disgusting trash printed in many others which boast to be science-fiction. I really believe that if you could put on the mode of cover that I suggest a lot of people who now do not deign to touch such "trash" would turn down their noses and buy a copy.

Dold is an excellent artist and though of course the readers certainly make you sit on Brass Tacks about the drawings no one expects a Rembrandt. As long as the drawer has some imagination and uses it, it's O. K.

In closing my letter I wish to compliment the editor on the obviously excellent work he has done.—Holmes H. Welch, 1733 Canton Ave., Milton, Mass.

Roses And Onions

Dear Editor:

As I have been a steady reader of your magazine for four years, I think I am entitled to throw a few roses to your staff of authors and artists, and a few onions to a couple of Brass Tackers who have aroused my ire.

First, I want to congratulate you on finding and employing Elliot Dold. He is now your best artist, barring none. Wesso was also a fine artist; what has become of him? (Right here I want to tell our Rhodesian squawker, a Mr. Woronin, that just because he does not care for Wesso's drawings, it does not give him the right to call him a monstrosity.)

Second, I want to give some well-earned praise to Jack Williamson for his *Legion Of Space*, Arthur L. Zagat for *Spoor Of The Bat*, Don Wandrei for *Colossus*, John R. Fearn for *Before Earth Came*, and last but not least, Frank Kelly for *Crater 17*.

I see no sound reason for all this rannygazoo about *Colossus*. It was a well-rounded, interesting story.

My last three parting shots are these: Please give us a quarterly, cut the edges of the pages, and give *Lo!* the bounce, and use that space for another story, preferably by Jack Williamson.—Vic Dorn, 120 Pinckney Road, Red Bank, N. J.

"Nasty, Disagreeable"?

Dear Editor:

Astounding Stories seems to be doing better. But most of the thought-variants are pretty limp—especially the improbable *Before Earth Came* by Fearn. It was possible, plausible—but too improbable, with the wild coincidents and events, to stimulate much thought. However, it was different enough to be very entertaining and—well, I must admit that it did provoke a little wonder.

And in the June issue, *Crater 17, Near Tycho* was a realistic, human tale, very well written, with all actions, events, and things blending properly in the future time. When I read that story, I lived in the future. Kelly has a prophetic imagination and sharp insight.

Keep F. K.'s nasty, disagreeable letters out of the columns. Also, let the other authors say what they want through their fiction—not by means of windy lectures "out back." There are exceptions, of course; arguments in Brass Tacks should be carried out by writers when necessary. But comments on stories—tsk, tsk.

Glad to see Zagat back. *Spoor Of The Bat* was almost as good as *Crater 17*. Dold's illustration for the story was excellent. He has enough imagination to put in the little details.

There are too many smudgy drawings in *Astounding Stories*. Print the cleaner ones, like C. R. Thomson's. Though the drawing for the weird and slightly beautiful *Dr. Lu-Mie* was excellent. Please get some more stories by Kruse, too.

Graham's stories are fresh and new. He should work on a novel.

Donald Wandrei is worse. He outdid himself in *Colossus*, and he can repeat in a sequel. Please, Mr. Wandrei.—Stuart Ayers, 1411 10th Avenue, Lewiston, Idaho.

Questions

Dear Editor:

This is my first letter to Brass Tacks, and I hope you are able to print it. Some time ago a friend of mine gave me a copy of your January, 1934, issue. *Colossus* was the best story of its kind I have ever read. I am always glad to get hold of a story with a new conception of the universe. I have bought every issue from February, 1934, to August.

Why not publish a quarterly? Why not print

plans for model space-craft? Why not establish a science-fiction club with membership cards, buttons? And why not trim all edges on your magazine?

But enough of that. Astounding Stories is far in advance of the other science-fiction magazines in size, price, and most important of all, in quality.—Donald Campbell, 213 E. Dubail Ave., South Bend, Indiana.

"Including The Advertisements!"

Dear Editor:

I just happened to see your August issue of Astounding Stories at a news stand and I was attracted by the cover design and the type of the stories, so I purchased a copy. I am glad that I did. All of the stories were just swell, especially *The Skylark Of Valeron*. I read the whole copy (including the advertisements) in just a few hours. I became so interested in some of the stories that I just couldn't stop reading when I had to.

I like the whole magazine—the cover design, the stories, and everything. I can hardly wait for the next issue to come out. You will have a steady customer in me from now on.

In regard to all the controversy over smooth edges, I say that it is what is in the magazine that counts and not the appearance of it. As long as the stories are good, who cares about whether the edges are smooth or not? I agree with some of my fellow readers whose letters appear in the Brass Tacks section that a scissors will take care of the edges of the copy.

I can find nothing wrong with the magazine at all. It is perfect. Just keep up the good work and keep all the same authors writing (they all write good stories, especially E. E. Smith) and the magazine will stay perfect.

I am waiting in suspense for the September issue. If it is as good as the one for August, I will be reading Astounding Stories every month.—Donald Schenck, 701 4th Ave., So. W., Great Falls, Mont.

Spring

Honored and Revered Editor:

BOYBOYBOY! Spring has come, followed by three upright but quivering exclamation points!!! Who gives a darn whether we get reprints or not? Who cares which artist draws the illustrations? What does it matter whether the magazine is printed on the finest of book paper, or the sleaziest of old brown wrapping paper? Or whether the edges are trimmed or not? Repeating, I repeat, Spring has come—the *Skylark* is back again!—E. Everett Evans, 46 Rose Street, Battle Creek, Michigan.

It Was Changed

Dear Editor:

While not as good as the July issue, the August one was a very good issue. The best story I'm sorry to say was *Warriors Of Eternity*. I'm sorry that this is so because I had hopes that *The Skylark Of Valeron* would be the best. While this was a very good story (at least the first installment is good), still it does not come near being as good as the other two *Skylark* stories.

Why didn't you label *Warriors Of Eternity* as a thought-variant story? It is plain to be seen that it is one. It is one of the half-dozen best stories published during the last eleven months.

F. B. Long's story was pleasant, as are all of his stories.

Where is the promised change of type in the August issue? I didn't notice anything out of the ordinary. If you intend to have a smaller type, then I am most emphatically against it as it is plenty small already. I would much rather you would keep it just as it is and not have any more stories. It's a good-enough bargain already.

So far I've interested three persons in

Astoundii. One for starting the magazine up again, another in hopes that you revive *Strange Tales*, and another in hopes of a quarterly. I'm not so particular about having the edges even, but I would like to have a thicker cover.—Lionel Dilbeck, 1834 Gold Street, Wichita, Kansas.

"Rubber Man" Schachner!

Dear Editor:

I just concluded your superb August issue of Astounding Stories. The two serials, *Skylark Of Valeron* and *Legion Of Space*, contributed more than anything else in the magazine toward making it "superb." It seems that each month A. S. gets better; I'm looking for smooth paper any time now.

The current installment of *Lo!* is the only detraction in the otherwise perfect August A. S. Let's hope that Fort's tale returns to its former high level soon.

Once more I enter my plea for the resumed publication of *Strange Tales*; surely there are enough fans of the weird story to warrant its being printed again.

Buchanan and Carr are promising; if all their works are as interesting as *Warriors Of Eternity*, you have certainly made a find for science-fiction.

Nat Schachner reminds me of Johnny Risko, the boxer, who is known as the "rubber man" because, every so often, after a series of rather dismal performances, Johnny will bob up with a sensational win, to put himself into the thick of the title scramble again. Nat's the same way; he'll write mediocre material for several months, and then, without warning, he'll pen a classic, such as *Stratosphere Towers*.

Zagat didn't mar his reputation by any means; *Beyond The Spectrum* had all the earmarks of being the best short story this month. *The Last Men* also proved interesting; I would like to see more of Long.—Alvin Earl Ferry, Box 265, Rockdale, Texas.

Contests Wanted

Dear Editor:

Congratulations to the new Astounding Stories! In its year under Street & Smith it has reached a tremendous peak. First it was the unusual fact serial *Lo!*, and now it is the sequel to the best known stories in science-fiction, the *Skylark* tales.

Astounding Stories lost something, however, when it changed ownership. Of course it is nothing other than artist Wesso. He was an asset to any magazine. Dold is good and so is Brown, but neither can hold a match to Wesso.

As I understand the editor, he is always ready to do anything within reason to improve the magazine. Well, here is a suggestion that I, and I am sure others, would like to see carried out. Run a contest occasionally. One could be run on a cover illustration, short-story contest, or almost anything. We science-fiction fans like anything of the sort.—Vernon H. Jones, 1806 Sixth Avenue, Des Moines, Iowa.

Let's Look At Them Pityingly

Dear Editor:

Just finished the August issue. It's a sock-dolager!

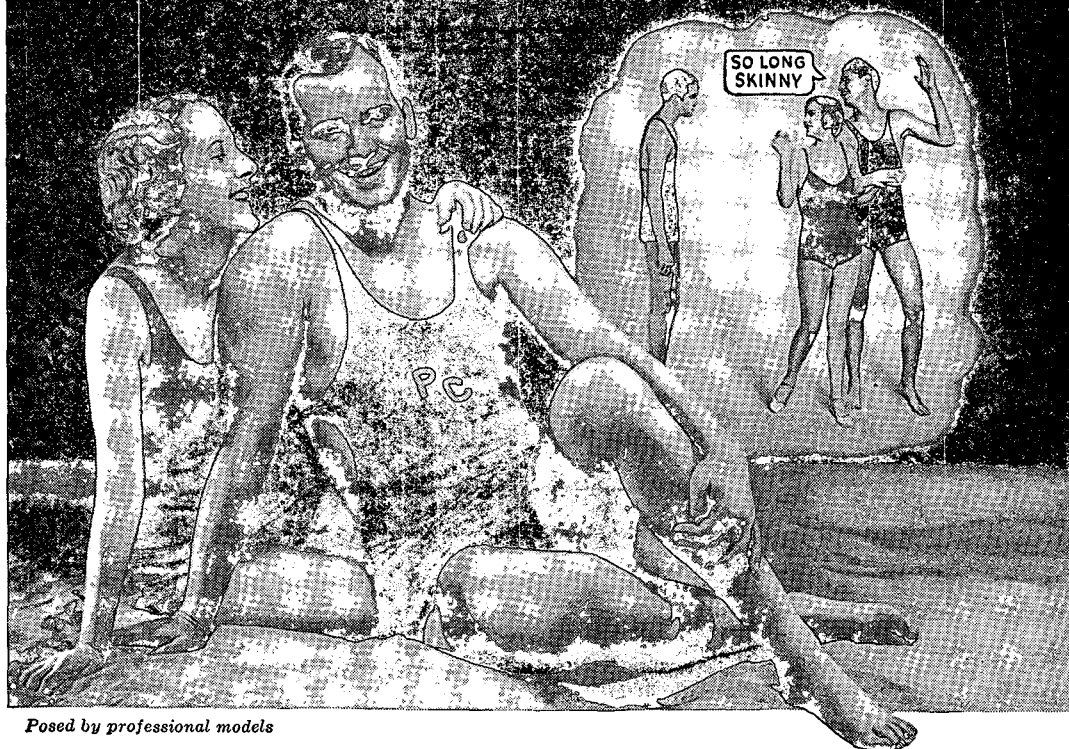
I am going to wait until I get all the issues containing *The Skylark Of Valeron* and then read it as a book. I think I will enjoy it much better that way.

I have been trying to get new readers for your magazine, but when I broach the subject to any one, they look at me pityingly or else laugh right out. The best reception I get is, "I don't like it, it's too fantastic," or "That kind of stuff could never happen."

Be sure to keep Dold for interior illustrations, and Brown for the covers, and the covers alone.—Arthur L. Widner, Jr., 79 Germaine Ave., Quincy, Massachusetts.

AST-10

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